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COMMITTEE PRINT

# INTERCITY BUS SERVICE IN SMALL COMMUNITIES

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PREPARED AT THE REQUEST OF  
HON. HOWARD W. CANNON, *Chairman*  
COMMITTEE ON COMMERCE,  
SCIENCE, AND TRANSPORTATION  
UNITED STATES SENATE



JULY 1978

Printed for the use of the  
Committee on Commerce, Science, and Transportation



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U.S. GOVERNMENT PRINTING OFFICE

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## LETTER OF TRANSMITTAL

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JULY 1, 1978.

DEAR COLLEAGUE: During the 1st session of the 95th Congress, the Committee on Commerce, Science, and Transportation commissioned Policy and Management Associates, Inc., of Cambridge, Mass., to conduct an independent study on the intercity bus service in small communities.

While this report has been neither approved, disapproved, or considered by the Committee on Commerce, Science, and Transportation, it is hoped that it will provide useful background information and assistance to Members of the Senate in consideration of the important transportation issues discussed in the report.

With best wishes, I am,

Sincerely yours,

HOWARD W. CANNON,  
*Chairman.*

(III)



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## INTRODUCTION

Intercity bus service has played an important role in providing transportation to small towns for over half a century. Of the 15,000 communities presently served by common carriers (air, bus, or rail), some 14,000 are served only by bus. Hence, bus service provides a vital linkage to small towns and rounds out the Nation's public transportation network. People without the use of a private automobile—notably the poor, the old, the very young, and the handicapped—must rely on bus service for any traveling they do to or from these smaller communities.

Altogether, some 340 million passengers were carried by intercity bus in 1976. Figures are not presently available to indicate what proportion of these passengers were traveling to or from the smaller communities. An estimate frequently used by industry spokesmen is that about 30 percent of bus passengers live outside metropolitan areas. However, this estimate is drawn from the National Travel Survey,<sup>1</sup> which sampled only persons whose round trips were in excess of 200 miles. Since the average bus trip is just over 100 miles long (112 miles in 1976), the National Travel Survey neglects a sizable proportion of the intercity bus travel market.<sup>2</sup> Nevertheless, for want of better information, if we accept the 30-percent figure as applicable to all intercity bus service, it would indicate that some 102 million persons are served by bus to or from small communities.

Because Government agencies do not collect data detailing transportation service specifically to small communities (or to large ones, for that matter), comprehensive information in this field is lacking. Therefore, in order to investigate the nature of bus service to small communities, a sample of 38 small towns throughout the United States was studied.<sup>3</sup> For purposes of this study, "small community" was defined as a city, town, or village in the continental United States located outside the standard metropolitan statistical areas (SMSA's), with a population between 1,000 and 25,000 residents. The 38 sample communities were chosen as (i) broadly representative of all U.S. communities within the specified population range; and (ii) sufficiently diversified to include a wide range of small-community characteristics. In comparing the average small-community characteristics with those of the U.S. population as a whole, it is apparent that

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<sup>1</sup> 1972 Census of Transportation.

<sup>2</sup> Another shortcoming of the National Travel Survey is that it omits servicemen and students, who make extensive use of bus service.

<sup>3</sup> See app. 1 for a detailed description of the methodology used to develop the sample of small communities.

these sample communities have grown less rapidly and that resident families have a lower median income. The smallest communities in terms of population are underrepresented in the sample.

To determine the extent and nature of current usage of bus service—both passenger and package express—interviews were carried out with bus company personnel or their commissioned agents in the sample communities. Data gathered on intercity bus service to each of the 38 sample communities included the following:

Number of bus lines serving the community.

Type of service (passenger and parcel or passenger only).

Frequency of service (number of daily departures).

Number of bus terminals or number of bus routes with direct scheduled service from the community.<sup>4</sup>

Because the sample is very small, it cannot be expected to be totally reflective of conditions in all small towns throughout the United States. A larger, more comprehensive study was beyond the scope of the present investigation; nevertheless, it is crucial to obtain more detailed information before costly national transportation policy actions are undertaken. The present study should thus be regarded as an exploratory step to ascertain whether there are problems requiring further attention.

In view of the preceding caveat, it should also be stated that we have no reason to believe that the present sample is unrepresentative. We are not aware of any biases that might be present in this sample.

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<sup>4</sup> App. 2 outlines the information elicited from interviewed ticket agents. App. 3 presents bus schedule maps for the sample small communities. The survey was conducted during the months of September and October 1977, in an attempt to avoid the distortions that would arise from sampling during the peak summer months or the trough winter months. Ideally, several samples should be taken at different times during the year to determine the extent of seasonal fluctuations.

# CURRENT STATUS OF BUS SERVICE TO SMALL TOWNS

## SERVICE AND TRIP CHARACTERISTICS

The numbers of passengers arriving at and departing from the sample of small towns varied greatly. The number of arrivals ranged from 3 to 900 per week, while the departures numbered between 3 and 800 per week. This wide range illustrates the diversity of bus service to small communities, and indicates the need for further research into the reasons for the differences.<sup>1</sup> However, the central tendency is probably reflected in the fact that three-quarters of the towns experienced fewer than 90 passenger arrivals and 105 passenger departures per week. For both arrivals and departures, the median number per town per week was 50, and the distribution was bimodal, with 5 communities having 50 arrivals and 5 having 35 arrivals per week.<sup>2</sup>

The distance traveled by the average passenger is another characteristic indicating the nature of bus usage by people living in small towns. The trip length of passengers departing from the sample communities ranged from 6 to 445 miles.<sup>3</sup>

The average distance traveled by the small-town passengers for whom such information was available was 145 miles. This surprisingly high figure is probably due in large part to three factors: (i) The remoteness of the towns, (ii) the sensitivity of the mean to extreme values, and (iii) problems associated with the sampling method. The median trip distance was 111 miles, a figure which is closer to the average passenger journey as reported by the Interstate Commerce Commission (see exhibit 1).

EXHIBIT 1.—Average passenger journey, regular route intercity service, by class I carriers

Year:	Median miles/ passenger
1969	105
1970	106
1971	109
1972	107
1973	117
1974	116
1975	113
1976	112

Source: American Bus Association, America's No. 1 Passenger Transportation Service, table 7, 1977, p. 29.

<sup>1</sup> The number of passengers is a function of both the characteristics of the population— income, age, et cetera—and the characteristics of the bus service; for example, the amount, frequency, and timing of service. These characteristics in turn depend upon such factors as whether or not the community is situated along a route between larger cities, how close it is to the nearest larger city, and so forth.

<sup>2</sup> Regarding departures, 5 towns had 35; 4 had 50.

<sup>3</sup> A 6-mile trip might not seem to qualify as intercity bus service. However, since there is no one standard for differentiating intercity from local service which is generally accepted by the industry or its regulators, the definition has emerged into a subjective one involving the nature of the service. Because the small communities presently under study are relatively isolated and not part of metropolitan areas, the bus service between them and neighboring towns is generally regarded as intercity service.



In this respect, bus passengers from small towns are similar to the general bus-riding public. In another important respect, however, the smalltown bus rider's experience is quite different from the line-haul, nonstop service enjoyed by big-city passengers. The average number of stops between origin and destination for small-community-sample passengers was 5.6. This attribute has both advantageous and disadvantageous aspects as far as the individual passenger is concerned. The major advantage is that it reflects more travel opportunities available to the smalltown citizen. The more stops there are, the more points being served, and the more people who have convenient access to intercity bus transportation. In addition, for the passenger boarding a bus in any particular small town, the more places that bus stops, the better the access to neighboring towns.

The major disadvantage to having so many stops is obvious: It significantly reduces the quality of service by slowing down the trip. The average 145-mile trip was found to take an average of 3 hours and 26 minutes. This yields an average bus speed of just 42 miles per hour.

### FARES

The average fare paid by the smalltown bus users in the sample was \$9.22, or about 6.36 cents per passenger-mile. Both of these numbers are greater than the estimated national averages of \$6.39 and 5.71 cents, respectively.<sup>4</sup> The difference in per-passenger-mile fare is not easily accounted for, in view of the greater average trip length for smalltown passengers. A possible explanation is that, because of competitive pressure from Amtrak, busfares between major cities also served by rail have risen less rapidly than the nationwide average. Although busfare increases typically come in the form of nationwide fare increases of a given percentage, in separate actions both Greyhound and Trailways have filed for smaller increases, or even fare reductions, along the Northeast Corridor, where they compete directly with Amtrak. In 1975 and 1976, a price war seemed imminent as Amtrak and the bus companies went through a round of price-slashing, but escalating costs on both sides deterred a downward-spiral effect. The bus industry continues to keep a wary eye on developments that might result in further Amtrak fare reduction, which they feel would necessitate busfare reductions. Traditionally, busfares have been 10 to 20 percent less than rail fares, and the bus industry fears that a narrowing of that differential would cause it to lose traffic to Amtrak.

A second hypothesis regarding the fare differential between smalltown bus passengers and the national average is that there is less intramodal competition in smalltown service than in service between major cities.

The evidence regarding these hypotheses is meager. However, one study of intercity bus service in the New England region found that the presence of rail competition had a significant negative effect on busfares, while the presence of intramodal competition had no significant effects.<sup>5</sup>

<sup>4</sup> For class I carriers, nationwide. The 1976 nationwide averages of \$5.76 and 5.14 cents, respectively, have been inflated to reflect the general fare increase of 11 percent effective May 15, 1977.

<sup>5</sup> Elizabeth A. Pinkston, "The Intercity Bus Transportation Industry," unpublished Ph. D. dissertation, Yale University, New Haven, Conn., 1975, pp. 113-115.

## CHARACTERISTICS OF MARKET SUPPLY

The previous sections described the extent of usage of bus service to and from smaller communities—the demand side of the picture. Now we turn to the characteristics of the supply of intercity bus transportation to small towns.

The most salient characteristic of service to smaller communities is the lack of competition—both among carriers and with other common carrier modes.<sup>6</sup> This is not surprising, in view of the highly duopolistic nature of the intercity bus industry on a nationwide basis. In general, Greyhound, with 50 percent of the national market, and Trailways, with 25 percent, compete head to head between most major cities. The more sparsely populated areas are typically served by either Greyhound, Trailways, or one of the thousand small “regional” carriers; otherwise, they are not served at all.

Of the 38 towns in the sample, 33 (87 percent) had some degree of intercity bus service available to them. (In one of the remaining five communities service had just recently been discontinued.) Six towns were served by two carriers; 27 had to rely on a single bus company for service. There has been virtually no change in these service offerings in the sample communities over the past decade.

As expected, where there were two carriers serving a community, those two were Greyhound and Trailways, and both covered essentially the same routes. Where only one company served a community, it was Greyhound in 12 towns, Trailways in 7, and smaller carriers in 8. This information, although not very revealing by itself, nevertheless indicates that alternative market supply configurations are feasible within the small-community segment of the intercity bus market. That is, the small-community submarket as a whole does not rely exclusively upon either the large, nationwide carriers or the smaller, regional carriers for service.

## PACKAGE EXPRESS SERVICE

Package express service has assumed an increasingly prominent role in intercity bus operations throughout the United States over the past decade. For class I carriers, on a nationwide basis, it brought \$151.9 million in revenues in 1976, or 15.2 percent of total bus operating revenues. This represents an appreciable increase, in both absolute and relative terms, over the \$64.6 million, or 10 percent of total revenues, in 1966. Furthermore, the growth pattern characterizing package express can be expected to continue, especially as the ICC eases some of its restrictions regarding local delivery service to and from terminals.<sup>7</sup> The industry is preparing for further growth by including among its orders for new buses some that are designed to accommodate much larger loads of express shipments than the conventional buses.

Package express service played an even greater role—proportionately—for the small communities surveyed than it did for the country

<sup>6</sup> The impact of automobile competition is discussed below, in the section about the financial posture of the industry.

<sup>7</sup> See, for example, ICC Ex Parte MC-37 (sub. 29), “Terminal Areas for Express Shipments by Bus,” 1977.

as a whole. Based on the admittedly limited sample of 13 communities for which there was sufficient information about both passenger and package express revenues, package express accounted for fully one-third of total revenues taken in by agents in the small communities.

Even this relatively large fraction may seriously understate the true importance of package express service to small communities, since it represents only the revenues received from shipments out of the communities. The number of inbound shipments was typically twice the number of outbound.

Although there was a wide range of usage of package express service reported by the sample communities—arrivals per week numbered between 10 and 350, departures from 1 to 105—the medians coincided with the modes and numbered 35 departures, outbound shipments, and 70 arrivals, inbound shipments, on a weekly basis.

Approximately 62 percent of the shipments were characterized as commercial, indicating the use of package express service by smalltown merchants, doctors, pharmacists, and so forth. In fact, this inbound retail traffic may help to explain why there are twice as many inbound as outbound shipments.



## THE REGULATORY ENVIRONMENT

The intercity bus transportation industry is constrained in its operations through direct regulation by the ICC, for service crossing State lines, and by State regulatory commissions, for intrastate service. The government agencies oversee such vital economic aspects of bus service as fares, entry, and abandonment, each of which is discussed below.

### REGULATION OF FARES

A company seeking to change its interstate fares must file the proposed changes with the ICC, which can either allow them to take effect as planned or suspend them while investigating whether the proposal is "just and reasonable." Until 1973 the ICC had never suspended a proposed busfare increase, but since then the Commission has become quite active in its investigations and challenges of proposed changes. Despite its increased activity, however, the ICC has usually seen fit to allow a substantial amount of the proposed increases to take effect. Exhibit 2 records the percentage increases allowed over the past 10 years.

EXHIBIT 2.—*Percentage increases in intercity bus passenger fares*

Year:	Percentage increase
1967 -----	5
1968 -----	5
1969 -----	10
1970 -----	5
1971 -----	5
1972 -----	5
1973 -----	3
1974 -----	16
1975 -----	10
1976 -----	9
1977 -----	11

Source: National Bus Traffic Association.

The typical industry pattern regarding fare increases is for the industry as a whole to file for a nationwide fare increase of a certain percentage. This filing is made through the industry's rate bureau, the National Bus Traffic Association (NBTA).<sup>1</sup>

Between May 1972 and July 1976, the NBTA filed approximately 10 general nationwide rate increase proposals for regular-route intercity passenger and package express service. In addition, several separate proposals were filed for special promotional fares on certain routes. These were designed either to stimulate additional travel by

<sup>1</sup> There are a few bus companies which are not members of the NBTA, but they represent only a minor fraction of intercity service. Some are airport limousine companies, the nature of whose operation is substantially different from that of the carriers investigated in the present study.

bus in certain market segments or to maintain the bus industry's competitive position vis-a-vis Amtrak, which has made a series of fare cuts since its inception in May of 1971. The ICC has not challenged any of the bus industry's reduced-fare proposals or prevented them from taking effect.

Both the fare increases and reductions have affected bus service to small communities; these impacts are described below, as part of the discussion of the present competitive position of the intercity bus industry—see the subsection Intermodal Competition of the section on the Financial Posture of the Intercity Bus Industry, below.

### REGULATION OF ENTRY

To operate legally, a company must obtain a certificate of public convenience and necessity from the ICC—for interstate service—or from the appropriate State commission—for intrastate service. This provision applies whenever a company wants to add another town or increase its route coverage. Although in the past both the ICC and State agencies have been quite restrictive in terms of granting new operating rights, this does not currently appear to have any appreciable effect on small communities, where there is not much evidence of carriers seeking to extend their service.<sup>2</sup>

### REGULATION OF EXIT

Just as the regulatory agencies—both State and Federal—have the power to regulate entry, they also have the authority to regulate exit from particular routes or towns. At the present time, this area of regulation has a more constraining effect on the industry's service to small towns than does entry regulation.

In general, the State commissions are considerably more restrictive than the ICC regarding the abandonment of a route or the bypassing of a town presently served. Both Greyhound and Trailways have been frustrated in various attempts to drop service that they no longer find compensatory—usually because the number of passengers is too small to provide revenues sufficient to cover costs.

It is difficult to assess how much service would be dropped in the absence of this regulation. Current applications for abandonment may represent only the tip of the iceberg, with other potential applications not being filed because of their low probability of success. On the other hand, the number of community-abandonment cases has been quite small relative to the 15,000 communities served by intercity bus. The detailed route-specific data required to clarify the issue are not available at this time.<sup>3</sup>

<sup>2</sup> See Pinkston, "The Intercity Bus Transportation Industry," Ch. II, for a study quantifying the ICC's awarding of new operating authority.

<sup>3</sup> Because of the complexity of bus route structures—including service to intermediate points—it is not easy for bus companies to compile and maintain complete and accurate data in this regard. Those which do are reluctant to divulge such information to outsiders.



Since there is no direct answer to the question of whether many small towns would lose their bus service if abandonment were not regulated, we shall try to infer the answer on the basis of the financial aspects of intercity bus service, which are examined below.

#### FLEXIBILITY OF REGULATION

Although the enabling legislation of the State regulatory commissions varies, it is generally similar to that of the Interstate Commerce Commission; both Federal and State agencies are directed to protect the public interest while promoting the health of the industry. Obviously, these objectives conflict with each other in various ways, with the result that the regulatory agencies must use their discretion in fulfilling this mandate. If the commissions so chose, they could be much less restrictive in their fare, entry, and exit regulation. Thus, if the Congress should determine that the ICC has been too strict in its policies, it would not have to take the drastic step of deregulating the bus industry; it could simply direct the ICC to be more flexible in particular aspects of its regulation.



# THE FINANCIAL POSTURE OF THE INTERCITY BUS INDUSTRY

## INTRODUCTION

Although the purpose of the present study is to examine bus service to small communities, it is impossible to do this adequately without also considering the bus industry as a whole and its place within the national transportation system. Bus service to small communities is quite often simply the intermediate segment of bus service between larger cities. When the same route serves both large and small towns, it is impossible to divorce one from the other. Even when small-town service stands alone as a feeder to larger places, its finances are tied into the rest of the bus industry through cross subsidization between routes and between different types of service.

Therefore, throughout this section we shall consider not only small-community bus service but also the rest of the industry. Any solution to problems confronting service to small communities must necessarily take into account the interactive effects with the rest of the industry, as well as with the other transportation modes. Without this perspective, we risk solving a problem in one area by creating more extensive and more expensive problems in other areas.

## OVERALL CARRIER PROFITABILITY

The intercity bus industry as a whole has suffered a decline in its financial health in recent years. This decline is attributable both to long-run developments originating in the early 1950's and to special conditions arising within the past decade.

## LONG-TERM CHANGES

Intercity bus transportation reached a peak, in terms of the number of passenger-miles served, during the Second World War. After the war, the numbers tapered off and formed a plateau at around 25 billion passenger-miles per year. During the fuel shortage of 1974, the industry achieved a new high of 27.6 billion passenger-miles, but this proved to be short-lived, and the number has since decreased to the 25-billion level. Exhibit 3 presents the data on intercity travel for all the major modes during the 1930-73 period. What is most striking regarding intercity bus service is that although its absolute quantity has remained stable over the years, it has suffered a continuing decline as a percentage of the total. The automobile and air modes have shared gains in travel, and they constitute the major competition to the bus industry over the long run.

## EXHIBIT 3.—INTERCITY TRAVEL BY MODE OF TRANSPORTATION, 1930-75

[Billions of passenger-miles]

Year	Total <sup>1</sup>	Public transportation			Private transportation, automobile	Bus travel as percent of total
		Bus	Rail	Air		
1930.....	220	7.4	28.0	0.1	183	3.4
1935.....	232	7.9	19.2	0.3	203	3.4
1940.....	330	10.2	24.8	1.0	293	3.1
1945.....	347	27.4	93.5	3.4	220	7.9
1950.....	508	26.0	32.0	10.0	438	5.1
1955.....	716	25.0	29.0	23.0	637	3.5
1960.....	784	19.3	22.0	34.0	706	2.5
1965.....	920	23.8	18.0	58.0	818	2.6
1970.....	1,185	25.3	11.0	119.0	1,026	2.1
1971.....	1,230	25.5	9.0	120.0	1,071	2.1
1972.....	1,300	25.6	9.0	133.0	1,129	2.0
1973.....	1,357	26.4	9.0	143.0	1,174	1.9
1974.....		27.6				
1975.....		25.6				

<sup>1</sup> Includes other modes.

Sources: 1930-45, all modes: National Association of Motor Bus Owners, "Bus Facts", 34th ed., 1966, p. 6. 1950-73, all modes except bus: U.S. Department of Commerce, Bureau of the Census, "Statistical Abstract of the United States," 1976, table 971, p. 583. 1950-75, bus mode: National Association of Motor Bus Owners, "One-Half Century of Service to America 1926-76", p. 23.

Private automobile ownership has had both direct and indirect impacts on bus travel. The direct effect is obvious: The private automobile provides a close (and, to many minds, a superior) substitute for bus transportation. The indirect effect is in the influence of automobile ownership on residential patterns. Widespread automobile ownership (see exhibit 4) has both promoted and been prompted by the suburbanization of the population.<sup>1</sup> By acquiring an automobile, a family could move beyond the scope of the urban public transportation system. Relocated in a suburb, the family would frequently realize a need for a second car, and the growth of real incomes ultimately made it possible to purchase a second (and perhaps a third), just as it had enabled the family to buy their first automobile. Exhibit 4 demonstrates the growth in multiple-car ownership in the United States.

This discussion of the interaction between automobile ownership and suburbanization may seem more relevant to a study of intrametropolitan transportation than to the present topic. However, there are implications for intercity bus service.

## EXHIBIT 4.—PERCENT OF U.S. HOUSEHOLDS OWNING AUTOMOBILES, 1950-74

(In percent)

Year	Owning at least 1 automobile	Owning 1 automobile	Owning 2 or more automobiles
1950.....	59	52	7
1955.....	70	60	10
1960.....	77	62	15
1965.....	79	55	24
1970.....	82	53	29
1974.....	84	39	45

Sources: 1950-70: U.S. Department of Commerce, Bureau of the Census, "Statistical Abstract of the United States," 1971, table 852, p. 536. 1974: U.S. Department of Commerce, Bureau of the Census, "Statistical Abstract of the United States," 1976, table 791, p. 583.

<sup>1</sup> For a discussion of the effect of transportation on residential patterns, see, for example, John R. Meyer, John F. Kain, and Martin Wohl, "The Urban Transportation Problem," Harvard University Press, Cambridge, Mass., 1965.



First, a family which owns a car—for commuting to work, driving children to school, or whatever reason—has available a substitute for public transportation, including intercity bus service. If the family regards the purchase price of the car as a sunk cost, it will probably consider the relevant cost of using the car as the marginal—out-of-pocket—cost for a particular trip—that is, gasoline, oil, tolls, parking expense, and general wear and tear. When these costs are compared to common carrier fares which reflect fully allocated costs, the automobile is likely to appear relatively less expensive, especially on a per passenger basis if more than one person is making the trip. Hence, the growth of automobile ownership has presented the bus industry with a strong rival.

A second impact on the intercity bus industry of auto ownership-cum-suburbanization is related to the establishment of suburban terminals serving passengers who wish to travel from the suburbs of one city to the suburbs of another. Bus service is more flexible than any other common carrier mode of transportation in its inherent ability to adapt to changing patterns of residence. Although the limits of the present study allow only superficial treatment of this potential source of new demand for bus service, it is recommended that this topic be explored more fully in a study of national transportation policy.

Just as increased automobile ownership is the result of rising real income, so is the increased use of air transportation—another rival of intercity bus service. Higher incomes make air travel more affordable; in fact, many passengers cannot afford not to fly, because of the value they place on their time.<sup>2</sup> Hence, the growth of air travel has helped to erode the demand for intercity bus service.

#### EVENTS OF THE 1970'S

Hon. A. Daniel O'Neal, Chairman of the Interstate Commerce Commission, has summed up the intercity bus industry's changing financial position during the 1970's as follows:

In the period 1971-76, the Nation's Class 1 bus carriers—those with operating revenues in excess of \$1 million—experienced an operating expense increase of 43.2 percent. During the same time, their operating revenues increased by only 30.8 percent. This disparity resulted in an increase in the industry "operating ratio" from 87.6 to 95.6, which in our view is a trend which cannot be sustained for any substantial length of time. Moreover, during the same 1971-76 period, the industry's return on net investment declined from 21.3 percent in 1971 to 9.8 percent in 1976.<sup>3</sup>

Although part of the industry's decline in health during the 1970's is due to the long-run conditions described above, these problems have been exacerbated by two more immediate factors—inflation and competition from Amtrak (the latter is examined below in the discussion of intermodal competition).

#### *The effects of inflation*

The intercity bus industry, like many others, has felt the pinch of increased costs, which result from the rising price level on prac-

<sup>2</sup> For a discussion of modal splits based on the value of the passenger's time, see Reuben Gronau, "The Effect of Traveling Time on the Demand for Passenger Transportation," *Journal of Political Economy*, Vol. 38, No. 2 (March-April 1970), pp. 377-394.

<sup>3</sup> A. Daniel O'Neal, statement before the Subcommittee on Surface Transportation, U.S. Senate Committee on Commerce, Science, and Transportation, June 16, 1977, p. 2.

tically everything bus companies need to purchase. Approximately 48 percent of total operating expenses are wages, and another 12 percent represent fringe benefits to workers. These costs continue to climb as a result of new, higher wage contracts, as well as anniversary date increases and cost-of-living adjustments built into previous labor agreements.<sup>4</sup>

Another category of expense that has been subject to enormous price increases in recent years is fuel. Although the bus continues to be a highly energy-efficient mode of travel,<sup>5</sup> its fuel costs have skyrocketed since 1973, both in absolute terms and as a percentage of total costs.

The third major area where the bus industry has been confronted by higher prices is equipment. The price of new buses has risen steadily, and is about 75 percent higher than a decade ago. Although this does not constitute nearly so sharp a cost increase as that for fuel, its effect on the industry is more complex. Because the historical cost is less than the cost of replacement, the "reserve" set-aside for depreciation is not sufficient to finance the purchase of new equipment. The industry is hard pressed to generate enough internal funds for capital replacement, and raising funds through the issue of new bonds or equities is difficult and expensive because of the perceived risk of these investments.<sup>6</sup>

The bus companies have two major reasons for seeking to renew their equipment. The first is that newer buses typically cost less to operate and maintain than older ones. The second reason is more complex. The carriers feel that passengers are extremely sensitive to the condition of the buses—as a matter of both comfort and reliability. They are concerned that older equipment will worsen the industry's image and cause travelers to choose another mode. Hence, the inflation in the price of new buses has not only a direct impact upon costs, but also an indirect effect upon revenues. There is a real possibility of a downward spiral, triggered by higher equipment prices, in which replacement occurs less frequently, the use of older equipment drives passengers away, and there is less revenue to finance new equipment, so that the average age of buses increases once again, ridership declines, and so on. This is clearly a matter of great concern, and unfortunately, no easy remedy is apparent.

#### *Alternative responses to rising costs*

Four major responses to this predicament seem possible. One is to continue to raise fares as long as they are in the inelastic range of the demand curve; that is, as long as total revenues continue to rise as a result of the increases. This strategy would probably bring about a considerable change in the nature of the intercity bus industry, with high-quality, high-price "luxury" service resembling an airport limousine operation. The low-income traveler would no longer be readily accommodated within the bus mode.

<sup>4</sup> For the pro forma year of the rate increase case effective Jan. 6, 1978, it is estimated that 67.9 percent of the increase in wages is due to cost-of-living increases; 24.8 percent to anniversary date increases; and only 7.3 percent to new labor contracts. See verified statement of F. R. Chase, vice chairman, National Bus Traffic Association, Inc., in a hearing before the ICC, "Increased Bus Passenger Fares and Express Rates, Nationwide," filed November 22, 1977, p. 21.

<sup>5</sup> Eric Hirst, "Energy Intensiveness of Passenger and Freight Transport Modes, 1950-70," Oak Ridge National Laboratory, Oak Ridge, Tenn., April 1973, pp. 6-12.

<sup>6</sup> The risk arises not so much from the relative decline in ridership, which is fairly predictable, as from uncertainties regarding potential changes in regulatory policy, which investors may perceive to affect the financial health of different companies in different ways.



The second alternative is the diametric opposite of the first; low-price, low-quality service as a result of allowing the present industry to deteriorate. This could be done gradually simply by not replacing equipment as quickly as before. With smaller demands for capital, the industry would not need as large revenues as it currently does, and fares would not have to be increased as rapidly.

The third alternative, which at this point is highly idealistic—although it may seem less so in the future—entails the best of both of the previous scenarios by offering high- and low-quality service. For commuter or airport service routes, the price elasticity of demand is probably quite low, but the service quality—including comfort, reliability, frequency, and speed—is vital. These routes would best be handled by high-quality, high-price service. A middle ground in terms of fares and service might be sought in certain vacation-travel markets, particularly those accommodating retired people. For these travelers speed and frequency are not crucial but comfort and reliability are; the fare level is of intermediate concern. Finally, there is the market segment made up of low-income travelers—including students—whose main objective is to get from one town to another the cheapest way possible. Service quality plays a distinctly subordinate role in their choice of mode, and they would prefer to forgo better service in return for lower fares.

For the industry to meet the differing demands of these three potential market segments, and still remain within the constraints of a coherent and compensatory route network, would require much more extensive and sophisticated analysis by individual carriers and the industry as a whole than is being carried out at the present time. It would also involve more of a marketing orientation than the industry has demonstrated. Such efforts are costly, and are rather risky.

These considerations bring us to the fourth alternative for the intercity bus industry: direct subsidy by Federal, State, and/or local government. This alternative embraces an issue that must ultimately be resolved through the political process, since it requires value judgments in addition to strictly economic analysis. There are two basic reasons for considering Government subsidy: (i) the present practice of subsidizing the bus industry's competitors, and (ii) the effects on the community at large, apart from the benefits to bus passengers.

As will be detailed in the following discussion of intermodal competition, the bus industry faces a severe competitive threat from Amtrak, the federally subsidized passenger rail service. This competition is centered in the Northeast Corridor, but has some spillover effects in other areas. As the Government pours more and more money into Amtrak, enabling it to improve service while lowering fares, the bus industry faces an increasingly intractable dilemma. If it chooses to maintain its strictly private enterprise character and refrain from accepting governmental subsidies, the industry faces further declines because of competition from Amtrak. Alternatively, it could ask for governmental aid, such as relief from regulatory restrictions and/or financial subsidies, and accept whatever strings might be attached. The distorted allocation of resources—diverting passengers from bus to rail service—caused by Government subsidies of Amtrak is not sufficient cause for subsidizing the bus industry, as well. Such an ac-

tion would bring about further distortions and inefficiencies in the use of resources.

Subsidies would be better justified if there were benefits produced by bus service that would accrue to people other than those actually paying fares and riding the bus. This would occur if, for instance, a community valued bus service simply for the linkage it would provide if other modes were to become unavailable.

### INTERMODAL COMPETITION

The problem of rising costs, described in the preceding section, has been alleviated somewhat by fare increases. However, the industry has been constrained in its fare increases not only by the various regulatory—ICC and State—commissions, but also by competition from other modes.

#### THE IMPACT OF THE PRIVATE AUTOMOBILE

The increase in the percentage of households owning one or more cars has been an important factor contributing to the decline in bus ridership, and industry officials fear that bus fare increases will further tip the balance toward greater use of the private automobile and decreased use of the intercity bus. This concern pertains to service to both small and large cities.

#### THE IMPACT OF AMTRAK

The second major intermodal competitive factor is rail service provided by Amtrak. Although its direct impact on small communities is slight, because Amtrak does not serve many small towns, there are significant spillover effects. As noted above, the general pattern of fare increases is that of a fixed percentage on a nationwide basis. However, since the inception of Amtrak in 1971, the bus industry has had to deal differently with its Amtrak-competitive service, primarily that between major cities along the Northeast Corridor.<sup>7</sup> While raising fares on most routes, the bus industry has actually had to decrease fares in the Northeast, in order to retain its competitive position vis-a-vis Amtrak.

#### THE IMPACT OF AIR SERVICE

In the section above, it was noted that air as well as automobile travel has increased tremendously while intercity bus travel has remained relatively constant. Recent declines in air fares between major cities in the United States are perceived as a serious threat by bus industry officials. However, since the results of these fare reductions are not yet known, we are unable to gage their effects on bus service to small communities.

As the Civil Aeronautics Board eases its regulation of the domestic trunk airline industry, smaller communities served by these carriers may experience either a decline in service or an increase in fares, since

<sup>7</sup> Because Amtrak fares are not regulated by any other Government agency, Amtrak is free to experiment with them; the bus industry lacks this flexibility. Even if the regulatory commissions ultimately approve bus fare changes in response to competition from Amtrak, the lag between filing and implementation could be sufficient for the bus industry to lose passengers to Amtrak.



cross-subsidization within the industry is likely to be reduced. Either occurrence would be expected to improve the lot of the intercity bus industry, although commuter and local-service airlines might fill the gap. As noted above in regard to Amtrak, the bus industry in this case would be faced with competition from firms with Government subsidies, whether the direct kind, such as local-service air carriers enjoy, or the indirect type; for example, provision of air terminal facilities.

### CROSS-SUBSIDIZATION

The primary way in which bus-Amtrak or bus-air competition has the potential to affect small towns is through cross-subsidization within the bus industry. The "conventional wisdom" is that the routes between major cities are relatively profitable and that they help to subsidize unprofitable service to smaller communities.<sup>8</sup>

Statements indicating the existence of cross-subsidization within the regular-route component of intercity bus service are abundant in remarks by bus industry officials. For instance, the following statements were made in a televised interview on the MacNeil/Lehrer report:

Mr. LEHRER. Well, both of you gentlemen [Harry Lesko, president of Greyhound Lines, and J. Kevin Murphy, president of Trailways] plus the president of your trade association, Arthur Lewis, have said that *serious cuts in service to rural areas are coming*, even more than have already been made. How drastic would they be, Mr. Lesko?

Mr. LESKO. They could be materially drastic, for this very reason: that only 11 percent of our total route system turns in a profit on an annual basis. *Eighty-nine percent of our routes are subsidized by the bread-and-butter primary routes*, as we would call them. The obvious answer is that if we are to keep our lines running and the scheduled miles operating on the primary routes to satisfy the high-density population factors, the *rural areas are going to have to suffer because they're straining the main line system.*<sup>9</sup>

Another reference to cross-subsidization can be found in the annual report of the National Association of Motor Bus Owners:

Like the airline and trucking industries, the intercity bus industry is characterized by a substantial amount of internal cross-subsidization. That is, the relatively more profitable charter service helps to support the more essential regularly scheduled service and the *regularly scheduled service between major population centers supports service at small towns where profits are marginal or non-existent.*<sup>10</sup>

Federal Government publications have also alluded to cross-subsidization within the bus industry. In discussing the industry's potential difficulty of raising sufficient capital, the Department of Transportation's 1972 National Transportation Report stated:

In addition, it might also result in the curtailment of the scheduled route service on the *less profitable routes into small towns and rural areas* where this service represents the only means of transportation access.<sup>11</sup>

The evidence regarding cross-subsidization is quite limited, for reasons outlined below. However, if it is found to be extensive, then the

<sup>8</sup> It is also thought that package express, charter, and special services cross-subsidize regular-route service. For evidence, see Pinkston, "The Intercity Bus Transportation Industry," ch. II.

<sup>9</sup> The MacNeil/Lehrer report, "Buses," a production of WNET/WETA, Dec. 8, 1977, transcript, p. 4 [emphasis added]. Greyhound officials were asked to supply documenting evidence, but they declined to do so.

<sup>10</sup> National Association of Motor Bus Owners, "One-Half Century of Service to America," Washington, D.C., 1976, p. 5 [emphasis added].

<sup>11</sup> U.S. Department of Transportation, "National Transportation Report," Washington, D.C., 1972, p. 165 [emphasis added].

presence of Amtrak is likely to have an effect not only on Amtrak-competitive routes but also on others that either subsidize or are subsidized by these routes.

It is difficult to determine the nature and extent of cross-subsidization within the intercity bus industry for several reasons. First, many inputs are shared not only by regular route passenger service along different routes, but also by the different forms of service—regular route, charter and special, and package express. There is no definitive system for allocating the joint costs of these components. One approach to the problem is to determine which costs accrue on a bus-mile basis—equipment maintenance, transportation, depreciation, and so forth—and to allocate these costs by the percentage of bus-miles run in the different forms of service. The costs that accrue on a per passenger basis—for example, various station, solicitation, and advertising expenses—can likewise be determined and allocated by the percentage of passengers in the different forms of service; and so on.

Yet this approach does not cover such truly joint costs as passengers and package express shipments being transported in the same bus. Until a few years ago, package express was such a small component of intercity bus service that it made few demands on the resources involved, and hence could be treated as costless, for all practical purposes. The service was handled by the ticket agents in their spare time and shipments were carried in what would otherwise have been unused space in the passenger baggage compartments; therefore, the opportunity cost was essentially zero.

As package express has grown, both in absolute terms and in relation to the other components of bus service, it has made increasing demands on both personnel and facilities to the extent that bus companies have had to hire additional employees and, in a few cases, allocate more space on buses for baggage and express shipments. These adjustments entail extra costs which should be ascribed directly to package express.

Another difficulty in determining the profitability of different routes—and, thus, whether and to what extent cross-subsidization exists—arises from the complex nature of the transportation network. Consider, for example, a hypothetical bus line from the small community of Elkton, Md., through Wilmington, Del., to Philadelphia, Pa. Suppose that on a typical bus run 10 people ride the full route from Elkton to Philadelphia, two ride only the Elkton-Wilmington segment, and 20 ride the Wilmington-Philadelphia segment. If the route segments are viewed separately, the Elkton-Wilmington segment, with just 12 passengers, look unprofitable, while the Wilmington-Philadelphia segment, with 30 passengers, seems considerably more lucrative. Yet, if the bus company were to drop its Elkton-Wilmington service—assuming it could obtain approval by the regulatory authorities to do so—it would risk losing the 10 passengers on the Wilmington-Philadelphia run who embarked in Elkton. Because they would have to find alternative service from Elkton to Wilmington to catch the bus there, these passengers would be inclined to switch modes for the entire trip, if that were feasible. The Wilmington-Philadelphia



segment would be left with only 20 passengers, which at best would be only marginally profitable.

Thus, it frequently does not make sense to disaggregate a transportation system into its component parts in attempting to determine the profitability of different routes. In this hypothetical case, the company must decide whether its overall profit position is better with or without the unprofitable segment. The complexity of this determination grows exponentially with the number of towns served; even with the aid of the largest, newest computers, the cross-subsidization issue is a difficult one to resolve.

Because of the difficulties of studying cross-subsidization, it is a topic that has not been investigated in a rigorous way.<sup>12</sup> Yet, the issue of cross-subsidization must be clarified before the impacts of decreasing or eliminating industry regulation can be assessed. It is strongly recommended that resources be committed to determining the nature and extent of cross-subsidization. The results of such a study would not only enable a better formulation of transportation policy but would also assist the bus industry in its planning.

### REGIONAL PROFITABILITY

Because it is difficult and costly to collect and process data about individual routes or service to small communities, the most reliable information is at the company level. This section examines the financial standing of different companies and, through consideration of the types of routes they serve, makes inferences regarding the relative profitability of urban versus rural routes.

The measure of profitability that is used is the operating ratio, defined as operating expenses divided by operating revenues. Although this measure has a serious shortcoming in that it does not yield information about the return on capital invested, it provides an adequate means of comparing different companies within the intercity bus industry, since most have similar capital structures. Furthermore, the operating ratio is the most readily available measurement in an industry where data are often difficult to obtain.

Because the operating ratio is calculated by dividing expenses by revenues, the lower the operating ratio, the wider the potential profit margin. An operating ratio of 100 percent indicates that revenues are just sufficient to cover operating costs.

The general picture of how profitability varies by region in the United States is shown in exhibit 5. These figures—average operating ratios—reveal that companies operating in the Southwest—which tends to be rural—show appreciably greater profitability than those in the Middle Atlantic—which is more urbanized. The tentative conclusion is that the data do not support the widespread claim that service to small communities is less profitable than that between major cities. Indeed, the evidence suggests that the opposite may occur under certain circumstances.

<sup>12</sup> Or, if it has been studied carefully by one or more individual carriers, the research has not been made public.

EXHIBIT 5.—Operating ratios of class I intercity motor carriers of passengers,  
by region, 1976

Region	Operating ratio (percent)
Southwestern .....	89.5
Pacific .....	90.5
Southern .....	94.1
Rocky Mountain .....	94.2
New England .....	95.3
Northwestern .....	96.1
Central .....	97.5
Midwestern .....	97.8
Middle Atlantic .....	100.1
Greyhound <sup>1</sup> .....	96.1
U.S. average .....	95.5

<sup>1</sup> Greyhound reports on a nationwide basis, not by separate region.

Source: ICC, Bureau of Accounts, "Financial and Operating Statistics, Class I Motor Carriers of Passengers," Statement No. 750, 1976.

Exhibit 6 presents the operating ratios by region for all of the companies. These are arranged in order of profitability, from the most profitable (lowest operating ratio) to the least profitable (highest operating ratio). The data show a significant amount of variability within each region. The companies with the lowest operating ratios (all in the 70's) are listed in exhibit 7.

EXHIBIT 6.—Operating ratios of class I intercity motor carriers of passengers,  
by region and carrier, 1976

Region and carrier	Operating ratio (percent)
New England .....	95.3
Connecticut Limousine Service .....	81.6
Arrow .....	90.6
Bonanza .....	92.0
Vermont .....	93.6
Chieppo .....	93.7
Peter Pan .....	94.3
Michaud .....	96.9
Almeida .....	97.6
Hudson .....	98.1
Plymouth and Brockton .....	98.6
Trailways of New England .....	106.8
Middle Atlantic .....	100.1
Capitol .....	88.0
Carl R. Bieber .....	90.1
Attwood's .....	90.4
Frank Martz .....	91.8
Adirondack .....	92.8
Blue Bird .....	93.2
Domenico .....	94.9
Lincoln .....	96.1
Mountain View .....	96.9
Starr .....	97.3
Suburban .....	98.2
Edwards .....	99.4
Hudson .....	99.8
Garden State .....	99.9
Lakeland .....	110.7
Somerset .....	102.1
Maplewood .....	102.2
Asbury Park—New York .....	103.6
Western New York .....	104.1
DeCamp .....	106.3
Safeway Trails .....	107.2
New York Keansburg Long Branch .....	125.2

EXHIBIT 6.—Operating ratios of class I intercity motor carriers of passengers,  
by region and carrier, 1976—Continued

Region and carrier	Operation ratio (percent)
<b>Central</b> .....	97.5
Illini-Swallow .....	86.4
Indiana Motor Bus .....	95.4
Indian Trails .....	95.9
North Star .....	98.1
Crown .....	100.8
Southeastern Trailways .....	103.6
<b>Southern</b> .....	94.1
Southeastern Stages .....	79.6
Colonial Trailways .....	83.8
Carolina Coach .....	84.4
Capital .....	89.8
Gulf .....	91.7
Virginia Stage .....	92.5
Seashore .....	97.6
Tamiami .....	99.6
Continental Southeastern .....	100.2
Continental Tennessee .....	101.7
<b>Northwestern</b> .....	96.1
Badger .....	86.8
Jack Rabbit .....	102.1
<b>Midwestern</b> .....	97.8
Jefferson .....	83.6
Sedalia, Marshall, Boonville .....	100.8
American .....	101.2
<b>Southwestern</b> .....	89.5
Texas, New Mexico, and Oklahoma .....	72.1
Continental Panhandle .....	72.6
Union .....	76.8
Kerrville .....	78.6
Mid-Continent .....	81.6
Arkansas .....	82.6
K. G. .....	86.4
Midwest .....	88.0
Continental Bus System .....	88.9
Continental Trailways .....	91.8
Continental Southern .....	95.9
Oklahoma .....	96.4
Texas .....	99.1
M. K. & O. .....	99.3
Valley .....	99.7
<b>Rocky Mountain</b> .....	94.2
New Mexico .....	88.6
Glenwood-Aspen .....	93.1
Intermountain .....	95.2
Denver-Colorado Springs-Pueblo .....	96.6
<b>Pacific</b> .....	90.5
California Parlour Car Tours .....	74.5
Roesch .....	92.2
Pacific Trailways .....	94.9
Las Vegas-Tonopah-Reno .....	95.8
Sun Valley .....	98.2

Source: ICC, Bureau of Accounts, "Financial and Operating Statistics, Class I Motor Carriers of Passengers," statement No. 750, 1976.



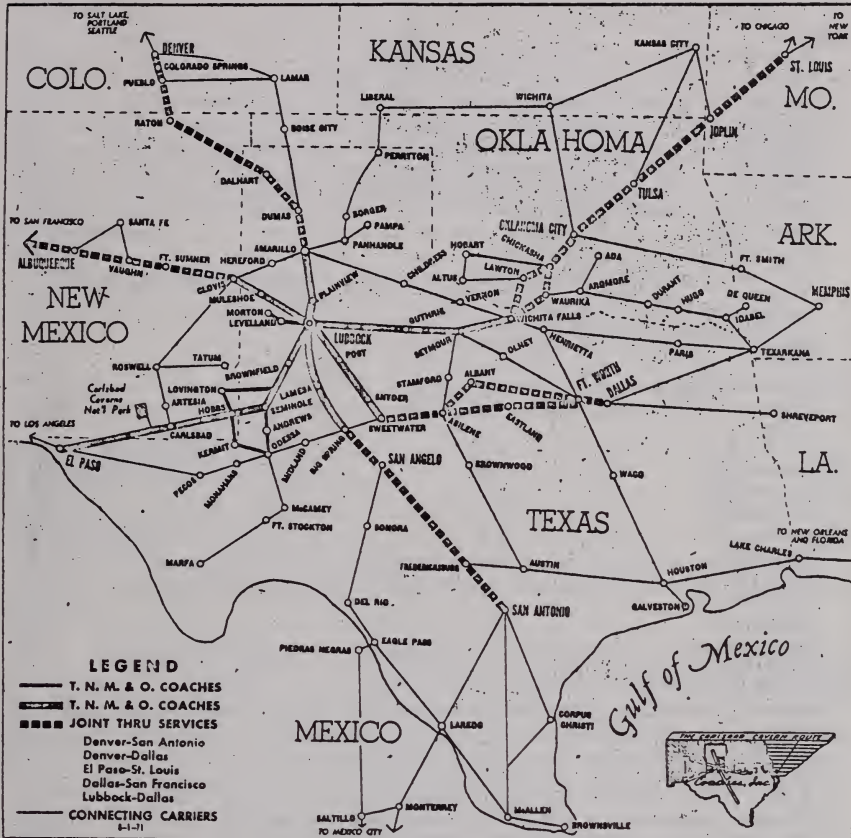
EXHIBIT 7.—*Carriers with the lowest operating ratios (the most profitable carriers), 1976*

<i>Carrier</i>	<i>Operating ratio (percent)</i>
Texas, New Mexico & Oklahoma Coaches.....	72.1
Continental Panhandle Lines.....	72.6
California Parlour Car Tours.....	74.5
Union Bus Lines.....	76.8
Kerrville Bus Co.....	78.6
Southeastern Stages.....	79.6

Source: ICC, Bureau of Accounts. "Financial and Operating Statistics, Class I Motor Carriers of Passengers," Statement 750, 1976.

The company with the best performance record is Texas, New Mexico & Oklahoma Coaches, Inc., which is a unit of the Greyhound Corp. The company's name aptly describes its service area, shown in exhibit 8. This highly profitable carrier provides a considerable amount of service to small communities, as is evident both from the map and from the data in exhibit 9, which lists the populations of many of the towns served by Texas, New Mexico & Oklahoma Coaches. The basic route configuration shows service linking several major cities, with stops at towns along the highways between those cities. In the absence of a detailed study of the number of passengers getting off and on the bus at the small communities between the larger cities (El Paso, Lubbock, Wichita Falls, and so forth) one cannot measure the profitability of serving each small town. The company may be serving these towns now only because it is required to do so either by the ICC or by the appropriate State regulatory commission. Without such regulation, some of the towns might be bypassed. Yet, given the frequent number of stops per day in many of these communities, one must conclude that abandonment is unlikely.

EXHIBIT 8.—Service area of Texas, New Mexico &amp; Oklahoma Coaches, Inc.



Source: Russell's Official Bus Guide, September 1977, p. 252.

**EXHIBIT 9.—Populations of communities served by Texas, New Mexico & Oklahoma Coaches, Inc.**

<i>State and city</i>	<i>Population</i>
<b>Texas:</b>	
Wichita Falls-----	96,500
Vernon-----	11,454
Childress-----	5,408
Seymour-----	3,469
Guthrie-----	250
Stamford-----	4,558
Post-----	3,854
Snyder-----	11,171
Sweetwater-----	12,020
Big Spring-----	28,735
Midland-----	59,463
Odessa-----	78,380
McCamey-----	2,647
Fort Stockton-----	8,283
Marfa-----	2,647
Monahans-----	8,333
Pecos-----	12,682
Kermit-----	7,884
El Paso-----	322,261
Andrews-----	8,625
Seminole-----	5,007
Brownfield-----	9,647
Lubbock-----	149,101
Plainview-----	19,096
Amarillo-----	127,010
Hereford-----	13,414
Levelland-----	11,445
Morton-----	2,738
Muleshoe-----	4,525
<b>New Mexico:</b>	
Clovis-----	28,495
Tatum-----	982
Roswell-----	33,908
Lovington-----	8,915
Hobbs-----	26,025
Artesia-----	10,315
Carlsbad-----	21,297

Source: 1970 Census of Population.

The second most profitable carrier, in terms of its operating ratio, is Continental Panhandle Lines, Inc., a unit of the Continental Trailways System. Based in Amarillo, Tex., it serves routes linking Oklahoma City, and Liberal, Kans., and Amarillo, with intermediate stops in smaller communities.

Third on the list is California Parlour Car Tours. Because this is a specialized unit of the Greyhound Corp., meaningful comparison with other bus companies is difficult. The remaining three carriers on the most profitable list have route structures similar to those of Texas, New Mexico & Oklahoma Coaches and Continental Panhandle Lines. They provide service to smaller communities located along the highways between regional centers.

Besides having similar route structures, these profitable carriers are alike in that they provide no local service and, for each carrier, the percentage of revenues from regular-route intercity service is below



the national average (see exhibit 10). Their percentages of charter and special service revenues vary too much to allow generalization, although it should be noted that several are well above the national average in this type of service, which is considered by many to be the source of subsidy for unprofitable regular-route service. Of greater significance is the high proportion of revenues earned by these profitable carriers from package express and other sources. This constitutes a promising area for further development within the intercity bus industry; as mentioned above, bus companies are in the process of acquiring new equipment, which will better accommodate package express service.

EXHIBIT 10.—OPERATING REVENUE SOURCES OF THE MOST PROFITABLE CARRIERS, 1976

Carrier	Operating revenue sources (percent)			
	Regular route	Local	Charter and special	Package express and other
Texas, New Mexico & Oklahoma Coaches.....	45.5	0	11.9	42.4
Continental Panhandle Lines.....	46.4	0	28.2	25.9
California Parlour Car Tours.....	33.3	0	1.8	64.9
Union Bus Lines.....	52.1	0	16.0	31.7
Kerrville Bus Co.....	56.6	0	26.7	16.0
Southeastern Stages.....	52.5	0	21.5	26.7
National average (intercity carriers).....	64.9	1.2	16.2	17.

Source: ICC, Bureau of Accounts, "Financial and Operating Statistics, Class I Motor Carriers of Passengers," Statement No. 750, 1976.

The companies with the highest operating ratios in 1974 are listed in exhibit 11. Exhibit 12 presents the sources of operating revenue for each firm. All of these companies experienced operating ratios in excess of 100 percent, indicating that they were operating in the red. Most of these carriers conduct service in the highly urbanized and suburbanized areas of the Middle Atlantic States. Thus, they lie outside the scope of the present study of service to small towns that are not part of metropolitan areas. Nevertheless, the evidence suggests that the conventional wisdom ascribing low profits on service to rural areas and higher profits in more densely populated areas needs to be reexamined.<sup>13</sup>

EXHIBIT 11.—Carriers with the highest operating ratios (the least profitable carriers), 1976

Carrier	Operating ratio (percent)
New York Keansburg Long Beach Bus Co.....	125.2
Safeway Trails.....	107.2
Trailways of New England.....	106.8
DeCamp.....	106.3
Western New York.....	104.1

<sup>13</sup> Certainly, there are other factors contributing to profitability which should be examined. For example, the unprofitable carriers obtain substantially smaller portions of their revenues from package express and other service than do the profitable carriers (see exhibit 12). These lower percentages may be related to the fact that more substitutes for bus package express are available in urban than in rural areas.

## EXHIBIT 12.—OPERATING REVENUE SOURCES OF THE LEAST PROFITABLE CARRIERS, 1976

[Operating revenue sources percent]

Carrier	Regular route	Local	Charter and special	Package express and other
New York Keansburg Long Branch Bus Co. ....	67.7	4.4	27.4	0.3
Safeway Trails .....	75.2	0	11.9	12.9
Trailways of New England .....	77.8	0	8.8	13.4
DeCamp .....	76.1	6.5	16.9	0.5
Western New York .....	35.9	0	57.0	7.1
National average (intercity carriers) .....	64.9	1.2	16.2	17.7

Source: ICC, Bureau of Accounts, "Financial and Operating Statistics, Class I Motor Carriers of Passengers," Statement No. 750, 1976.

Part of the explanation for this unexpected finding has already been discussed with regard to intermodal competition. There is, however, a second consideration, which concerns fare structures. The present fare structure is characterized by a slight taper; that is, as distance increases, the fare per mile declines, so that the fare could be represented as a flat price plus so many cents per mile traveled. Costs also accrue on this basis; some components are fixed, such as station expense, and others, such as fuel, increase with the number of miles traveled.

From the standpoint of allocating resources efficiently, the fare structure should be as close as practicable to the cost structure. Suppose, however, that they are out of alignment—that the fixed component in the fare is not high enough to reflect fixed costs, but that the variable component is higher for fares than for costs. With this imbalance between cost and fare structures, the short-haul carrier will be unable to take in enough in the per-mile charge to compensate for the high fixed-cost component. On the other hand, the long-haul carrier will be much better off, because its more-than-compensatory per-mile rate will offset the less-than-compensatory fixed component. If this is indeed the case, it helps to explain why the Middle Atlantic carriers, which typically have relatively short hauls, are worse off financially than, for example, the Texas-based carriers with longer hauls. Further examination of this issue is beyond the scope of the present study, but is crucial in formulating a policy for an efficient transportation system.

## THE ISSUE OF REGULATION

Regulation has been the traditional public policy for any industry that is characterized by (i) such substantial economies of scale as to render it a natural monopoly and (ii) being "affected with the public interest," to use the phrase of the U.S. Supreme Court.<sup>1</sup> Both of these criteria are discussed in this section with regard to the intercity bus industry as a whole, as well as to that segment of it which serves small communities.

### NATURAL MONOPOLY

Most small communities are served by a single intercity bus company which possesses a monopoly on the routes it covers. Relatively few towns are served by two carriers, and on virtually no route, regardless of city size, do more than two carriers compete. These facts lead to the question of why there is not more competition. Is it because of substantial economies of scale which enable larger firms to provide service at much lower average costs than small companies? If so, then intercity bus service should be regarded as a natural monopoly—and a prime candidate for governmental regulation.

This issue has been examined elsewhere, and economies of scale have not been found to be present.<sup>2</sup> Smaller companies have been able to achieve as low (or lower) costs per bus-mile as the large companies. Furthermore, because fixed costs are small relative to the total, entry into the industry is easily accomplished, in terms of cost. Because of these factors, the natural monopoly explanation is not a compelling one.

Rather, the bus companies have been able to achieve their monopolistic (or duopolistic) positions with the aid of the regulatory authorities, which have been extremely restrictive regarding the granting of new operating rights.<sup>3</sup> Unless an applicant for a certificate of public convenience and necessity can prove that its proposed service is needed by the public and is not presently being offered on an adequate level by another carrier, it is not likely to be awarded the certificate. Nearly all of the 1,000 bus companies regulated by the ICC were granted operating authority under the "grandfather clause" of the Motor Carrier Act of 1935. According to that clause, any carrier operating legitimately at the time the act was passed was automatically given the right to continue its present service. But since that time, the ICC has granted very few new operating rights.

Hence, the present monopolistic structure of vast segments of the intercity bus industry can be attributed to governmental regulation.

<sup>1</sup> *Munn v. Illinois*, 94 U.S. 113 (1877).

<sup>2</sup> Pinkston, "The Intercity Bus Transportation Industry."

<sup>3</sup> *Ibid.*



rather than to natural monopoly characteristics.<sup>4</sup> Since the natural monopoly justification for regulation does not hold, we could simply conclude that there is no good reason to regulate the industry. However, since the industry is regulated, it seems useful to explore a different rationale.

#### "AFFECTED WITH THE PUBLIC INTEREST"

It is the public interest aspect of intercity bus service that has been most prominent in discussions of why the industry should be regulated. The presumption is that since the public (or segments thereof) depends upon bus service, it is necessary to have a regulatory agency overseeing the industry to make sure that it serves the public in accordance with its operating authority. The principle of common carriage is that the bus company must provide service to all travelers, without any discrimination. The company's operating certificate conveys not only the right to perform service, but also the obligation to do so.

The fact that an industry is affected with the public interest is a necessary condition for regulation, but not a sufficient one. There are many industries which are vital to the public but which are not regulated by the Government, because the forces of competition act as a restraint against abuse of the public. An example is grocery stores. A comparison of this industry with that of intercity bus may help to clarify the issue of regulation of bus service to small towns.

#### BUS SERVICE AND GROCERY STORES

In many respects, bus service to small communities can be likened to small-town grocery stores. Both are "affected with the public interest," but neither is characterized by the substantial economies of scale that would make it a natural monopoly. However, the size of their respective markets may not be large enough to attract more than one such enterprise to a community.

For both grocery stores and intercity bus service, alternative sources of supply are available, at least to some customers. People with automobiles can use them instead of the bus, and they can drive to a neighboring community for groceries if they deem the price or service quality of the local monopolist (bus company or grocery store) to be unsatisfactory.

Thus, in both cases there are two groups of consumers: those with access to alternative services and those who represent a "captive audience." Furthermore, in each case the competitive disadvantage lies

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<sup>4</sup> There might be room for only one carrier along some routes where demand is sparse, thus presenting a natural monopoly situation. However, in an industry with easy entry, the threat of potential competition, either by carriers serving other routes or by new carriers, would serve as a constraint on the monopolist.

with those who have no access to automobiles—the poor, the elderly, and the very young.<sup>5</sup>

Economic analysis does not offer a clear resolution to the issue of whether to regulate companies which provide a product for which some people have a highly inelastic demand while others have close substitutes available. Indeed, perhaps such an analytic approach should not provide answers, since there is no way to take adequate account of interpersonal differences in the intensity of various preferences.

The grocery store analogy is useful in showing that bus service is not unique as an enterprise which has a much greater impact upon certain—disadvantaged—groups than on others. The American tradition has been to provide for the welfare of these groups and to try to alleviate their difficulties. But the solution to the social welfare problem would be unfair if it required individual private enterprises to bear the burden of relief. Just as grocers are not expected to sell food at lower prices to poor people—or to people who cannot get to another store—neither should bus companies be faced with price ceilings on their services. This sort of indirect, segmented, sectoral approach leads to inefficiencies throughout the economy. It also makes little sense from a social perspective. The bus service which might be expected to subsidize the small-community service—service between large urban areas and charter service—has a similar patronage dominated by the poor, the elderly, and the very young.

The more rational and efficient approach is to provide direct assistance to those in need of it. If the poor people in small towns need more money to achieve a “decent” standard of living—including being able to afford bus service—then they should be given it directly. But what if such a policy caused monopolistic bus companies to raise their fares to exorbitant levels? If they did, then there would be a strong incentive for other firms to enter the bus transportation business and eliminate excess profits by undercutting the high fares. As noted above, entry is easy to achieve from a technical standpoint; that is, cost factors do not serve as barriers to entry. The main barrier to entry is the requirement that the applicant secure a certificate of public convenience and necessity from the ICC—for interstate service—or from the appropriate State regulatory agency—for intrastate service.

It should be stressed here that the easing of fare regulation without an easing of entry restrictions might pose the danger of monopoly abuse. However, maintenance of maximum rate controls in cases of “market dominance” could effectively limit the likelihood of such abuse.

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<sup>5</sup> With regard to the characterization of a significant portion of its clientele as “disadvantaged” in one way or another, the bus industry exhibits some schizophrenia. On the one hand, it wants to appear the concerned public servant to help the disadvantaged. But on the other hand, it worries about the potentially damaging effect that this image might have on some would-be “advantaged” riders.

According to the 1972 “National Travel Survey” (U.S. Bureau of the Census, *Census of Transportation*, vol. I, 1972), a larger proportion of bus riders than all travelers (i.e. users of any mode, including bus) come from low-income groups. The median family income for bus passengers in 1972 was \$8,157, while the figure for all travelers was \$11,652. Regarding age, 30 percent of bus riders were less than 18 years old, another 7.9 percent were between 18 and 24 years, and 16.8 percent were 65 years or older. Thus, some 54.7 percent of bus passengers were from either the “young” or the “probably retired” category.



## PROPOSALS FOR REGULATORY REFORM

From the preceding discussion, it is evident that there is little justification for the present form of regulation of the intercity bus industry. However, it is one thing to say that it should not exist, but quite another to recommend that the current framework be eliminated overnight. The industry has gradually adjusted to the demands of its regulators—and vice versa—and certain investments and long-range plans have been made assuming that the present form of regulation will continue indefinitely. For this reason, any lessening of regulation should take place gradually, so as to minimize the transitional hardships that might be imposed upon both the industry and its passengers.

Still another reason for a “go slow” approach to regulatory reform is the fact that we cannot predict or anticipate all of the changes that might occur as a result of deregulation. This is true because the bus industry does not have a substantial nonregulated bus sector with which to compare the regulated industry. In contrast, private and exempt carriage in the trucking industry can be compared to the regulated common and contract carriage, and in the airline industry the intrastate markets of California and Texas can be compared with service regulated by the Civil Aeronautics Board. Because of these considerations, the best approach to deregulation is a gradual one that incorporates enough flexibility to slow down, halt, or even reverse the process should unanticipated traumas ensue.

### FARE REGULATION

The regulation of fares makes little sense where there is a substantial amount of intermodal competition from the private automobile, Amtrak, and air transportation. However, Amtrak and the air carriers serve only a few hundred towns, and the private automobile is not a viable alternative for a substantial number of bus passengers—the poor, the elderly, and the very young.

In the long run, under deregulation the threat of potential competition from new entrants to the bus industry should be sufficient to prevent fares from rising to exorbitant levels, provided that entry restrictions are also relaxed. But in the transitional period, it would seem reasonable to establish zones within which fares could fluctuate without need for regulatory approval. These zones could be widened on a gradual basis, until fares were completely flexible. If a carrier wanted to raise (or lower) fares beyond the limits of the zone, it would be required to go through the same process that now exists to prove that the proposed change was “just and reasonable.”



## ENTRY AND EXIT REGULATION

The ICC's regulation of entry into the intercity bus industry has resulted in a high degree of monopoly in an industry that, in view of its cost characteristics, would seem capable of achieving a reasonable degree of competition. If free entry were allowed, fares would undoubtedly be bid down on some routes, as new firms entered the market in pursuit of a share of any monopoly rents currently being produced.

To the extent that cross-subsidization exists, fares on those routes which are now subsidized could be expected to rise. But this event should be regarded as beneficial as far as the efficient use of resources is concerned. If the fares on a route are not sufficient to cover the costs, this constitutes an artificial inducement for more than the optimal amount of service to be consumed, requiring further subsidies. In this case, the fare should be raised to equal the marginal cost of service, in order to bring about a more efficient allocation of resources. The alternative is for the bus company to eliminate its unprofitable routes, when people are unwilling to pay a price that reflects the value of resources used in the provision of the service. If it turns out that some people value the service highly but are unable to afford it, then it is up to the government—Federal, State, or local—to decide whether routes should be subsidized. The advantage of a direct subsidy over the hidden type characteristic of cross-subsidization is that the decision is open to public scrutiny, and the public can offer its views as to whether or not a subsidy is desired.

For resources to be allocated efficiently, they must be free to flow between various uses, as cost and demand conditions change. Intercity bus transportation will better serve the public in the long run if free entry into and exit from the industry and from particular routes and segments are allowed.

However, as cautioned above in regard to fares, severe disruptions might ensue from an immediate removal of all entry and exit regulation. The bus industry has made long-range plans, including the purchase of new equipment and the construction or improvement of terminal facilities, based upon present regulatory policies. Under deregulation a company which has been required to make an investment in service that is not remunerative—in exchange for the right to provide other service in more profitable areas—would be faced with a large sunk cost that it would not be able to recoup. Further study is needed to determine the extent of this potential problem, and to draw up adequate means of compensation.

Therefore, the lessening of entry and exit restrictions should be a gradual process, occurring over a period of perhaps 10 years—roughly the lifetime of a bus. Guidelines should be established for determining the amount of competition to be allowed, how much service may be abandoned, and under what conditions entry and exit may occur. In addition, the bus companies should be encouraged, and perhaps assisted, by the government to anticipate changing service patterns through innovations, such as the increased use of minibuses or vans on the sparser routes, or more widespread use of buses with expanded package express compartments.



## THE ROLE OF THE ICC IN REGULATORY REFORM

Under the present Interstate Commerce Act, the ICC could make all of the regulatory reforms suggested above. The preamble to the act calls for protection of both the public and the industry, thereby giving wide latitude for the Commission's discretion. Regulatory reforms could be implemented either by encouraging the ICC to be less stringent or by removing the intercity bus industry from the ICC's jurisdiction. Since intercity bus considerations consume only a minor portion of the ICC's resources, the impact—on the ICC—of removing its authority over buses would be slight.

During the transition process, the ICC could play a key role in easing the costs of adjustment. If unanticipated events were to indicate that total deregulation would be detrimental in some of its aspects, the Commission would be available and ready to respond to the changing circumstances.



## SUMMARY AND CONCLUSIONS

In summary, the intercity bus transportation industry as a whole faces an uncertain future, due to the combination of higher costs and competition from other modes. As an integral part of the system, service to small communities is equally problematical.

In the near term, service to small towns seems no more threatened than that to larger cities. In fact, based on the available financial data, it appears that the industry is healthier in rural areas than in highly urbanized areas. But this is not a good excuse for transportation planners and policymakers to continue to neglect the intercity bus industry as they have in the past. This is the time to reassess priorities within the entire transportation system.

From a purely economic standpoint the bus industry has a great deal to offer. It is the least expensive common carrier passenger mode for short hauls—less than 200 miles—except, perhaps, in the most densely populated corridors which attract enough passengers to support frequent rail service. The bus industry does not require the enormous investments in fixed track and airports that its competitors do.<sup>1</sup> With the highway system blanketing the United States, the bus industry has unparalleled flexibility in being able to serve new communities on short notice. Furthermore, bus carriers do not necessarily incur substantial losses on sunk capital on routes where the demand for service has tapered off, since most of the resources can be shifted to other routes.

The entire passenger transportation network needs further examination regarding the issue of whether present subsidies to various modes are actually producing inefficiencies in the system. In the meantime, the regulatory commissions—State and Federal—should ease their regulation of entry, exit, and fares in the intercity bus transportation industry.

Regarding fares, it makes little sense to regulate them strictly, because of the substantial degree of intermodal competition. This sets an effective ceiling on what the bus companies can charge, in most cases. As a transitional measure, the regulatory commissions could allow fares to fluctuate within a “zone of reasonableness,” tied, perhaps, to the rate of inflation. If a carrier wished to raise—or lower—fares beyond the zone, it would have to provide substantial evidence in support of the proposed change. In this way, the time and effort saved by the ICC in avoiding extensive consideration of “reasonable” changes could be channeled into the more unusual cases.

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<sup>1</sup> One might argue that the bus industry does rely upon the extensive highway network. However, the highway system exists basically to meet the demands of automobile and truck transportation; the marginal demands placed on it by the bus industry are small.

Regarding entry and exit, the commissions should set guidelines within which carriers can start new operations. These guidelines should specify the financial circumstances under which entry and exit can occur without prior approval by a regulatory agency. As with fares, if a company wants to enter or abandon service outside the guidelines, it should bear the burden of proof that such measures are not counter to the public interest, when balanced against the financial impact on the firm. These guidelines should be designed with the objective of encouraging innovative bus service/fare options that might ease the dilemma of the current system.

These measures are recommended on an interim basis, pending a more exhaustive analysis of transportation policy. Not only would they alleviate some of the current problems faced by the industry, but they would also provide an indication of necessary future adjustments if regulation of the industry were substantially reduced or eliminated.

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## APPENDIX 1.—DEVELOPMENT OF THE SMALL COMMUNITY SAMPLE AND SURVEY METHODOLOGY

For purposes of this survey, small communities are defined as those cities, towns, and villages in the continental United States which have populations between 1,000 and 25,000 and are located outside of standard metropolitan statistical areas (SMSA's).

In accordance with accepted statistical procedures, a stratified sample was developed. The universe of small communities was first divided into nonoverlapping, internally homogeneous groups by population and geographical region. Within each stratum, community selection was arbitrary. Of the preliminary sample of 205 communities thus selected, 40 were chosen as sites for field interview research. The selection process is described in greater detail below.

### DEFINITION OF THE BROAD UNIVERSE OF SMALL COMMUNITIES

Most general definitions of small communities are based on size and location. For the purposes of this survey, a small community is defined as having a population of between 1,000 and 25,000 residents. We grouped communities in the United States within the following standard census population brackets:<sup>1</sup> 1,000 to 2,500; 2,500 to 5,000; 5,000 to 10,000; 10,000 to 25,000.

These communities were then grouped by ICC motor carrier region<sup>2</sup> (see exhibit 1-1).

EXHIBIT 1-1—SUMMARY OF DISTRIBUTION OF SMALL COMMUNITIES, BY MOTOR CARRIER REGION AND POPULATION

Region	Number of communities			
	Population: 1,000 to 2,500	Population: 2,500 to 5,000	Population: 5,000 to 10,000	Population: 10,000 to 25,000
New England.....	205	94	55	39
Middle Atlantic.....	897	421	479	308
Southern.....	940	481	351	229
Northwestern.....	378	134	90	72
Rocky Mountain.....	195	100	68	43
Central.....	802	380	293	274
Midwestern.....	486	172	124	78
Pacific.....	322	222	190	197
Southwestern.....	543	270	174	138
Total <sup>1</sup> .....	4,768	2,274	1,824	1,378

<sup>1</sup> Excludes Alaska and Hawaii.

Source: U.S. Census of Population, 1970.

<sup>1</sup> This study is limited to communities in the continental United States.

<sup>2</sup> ICC, "Transport Statistics in the United States," 1973.

As shown in exhibit 1-2, of the communities located outside of SMSA's, with populations between 1,000 and 25,000, some 53.1 percent fall within the 1,000 to 2,500 population bracket; 23.4 percent fall within the 2,500 to 5,000 bracket; 14.7 percent fall within the 5,000 to 10,000 bracket; and 8.8 percent have between 10,000 and 25,000 residents.

EXHIBIT 1-2.—DISTRIBUTION OF SMALL COMMUNITIES BY SIZE

Population size	Number of communities outside SMSA's	Percent distribution
1,000 to 2,500.....	3,232	53.1
2,500 to 5,000.....	1,425	23.4
5,000 to 10,000.....	896	14.7
10,000 to 25,000.....	538	8.8
Total.....	6,091	100.0

	Number of communities <sup>1</sup>	Percent distribution
1,000 to 2,500.....	4,768	46.5
2,500 to 5,000.....	2,274	22.2
5,000 to 10,000.....	1,824	17.8
10,000 to 25,000.....	1,378	13.5
Total.....	10,244	100.0

<sup>1</sup> Excludes communities in Alaska and Hawaii.

Source: U.S. Census of Population, 1970.

#### DEVELOPMENT OF A REPRESENTATIVE SAMPLE OF SMALL COMMUNITIES

Given the broad definition of small communities developed above, the next step was to reduce the total number of small communities in order to establish a smaller representative sample. This step resulted in the initial selection of 205 communities from the total of 6,091 small communities located outside of SMSA's in the United States, as identified by the 1970 Census.

Following stratification of the universe of small communities by population class and ICC geographical region, the number of communities to be selected from each stratum was assigned so as to be proportional to the population/geographical distribution of the universe of small communities outside of SMSA's in the United States. The appropriate number of communities was then selected randomly from each stratum.

#### DEVELOPMENT OF A SAMPLE OF 40 COMMUNITIES

The final step was to select from the overall list of 205 communities a sample of 40. The 205 communities were again stratified by population class. The number of communities selected from each stratum is proportional to the universe in the 2,500 to 5,000, 5,000 to 10,000, and 10,000 to 25,000 ranges but is deliberately understated in the 1,000 to 2,500 range. Because the sample is limited to 40 communities, to do otherwise would result in too few communities in each population bracket above 2,500. Exhibit 1-3 lists the 40 selected communities, their location (State), and population estimates for 1975. The geographical distribution is shown in exhibit 1-4.

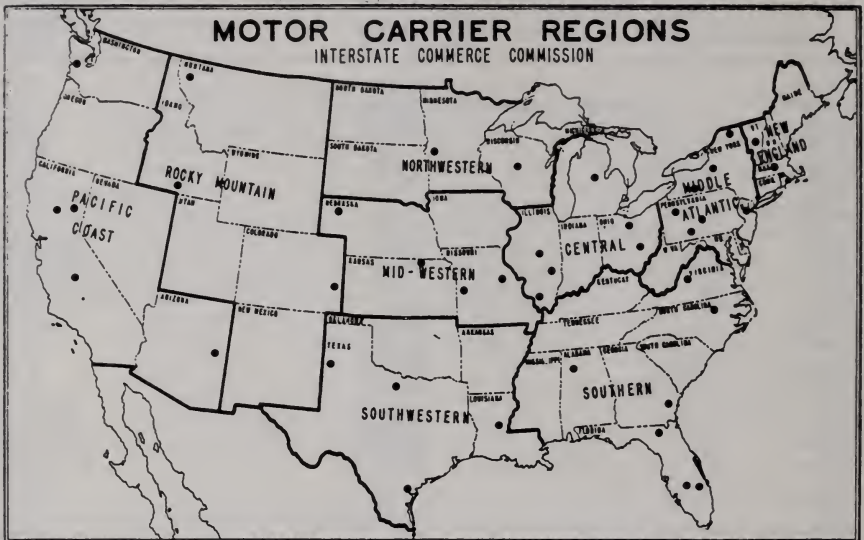
## EXHIBIT 1-3.—COMMUNITIES IN THE SMALL COMMUNITY INTERVIEW LIST

Community	State	Population estimate for community (1975) <sup>1</sup>
Russellville.....	Alabama.....	7,938
Springerville.....	Arizona.....	1,349
Corning.....	California.....	3,945
Susanville.....	do.....	7,129
Tulare.....	do.....	18,737
Burlington.....	Colorado.....	3,141
Okeechobee.....	Florida.....	4,884
Sebring.....	do.....	9,235
Lake City.....	do.....	10,552
Hinesville.....	Georgia.....	6,627
Kimberly.....	Idaho.....	1,815
Anna.....	Illinois.....	4,814
Olney.....	do.....	8,897
Lincoln.....	do.....	15,606
Belleville.....	Kansas.....	2,749
Jonesville.....	Louisiana.....	2,827
Deerfield.....	Massachusetts.....	4,257
Clare.....	Michigan.....	3,034
Benson.....	Minnesota.....	3,356
Nevada.....	Missouri.....	9,195
Fulton.....	do.....	11,961
Troy.....	Montana.....	5,976
Chadron.....	Nebraska.....	5,394
Newton.....	New Jersey.....	7,971
Homer.....	New York.....	4,415
Malone.....	do.....	7,627
Hornell.....	do.....	11,397
Enfield.....	North Carolina.....	3,347
Clyde.....	Ohio.....	6,154
Cambridge.....	do.....	13,295
Blairsville.....	Pennsylvania.....	3,898
Bellefonte.....	do.....	6,185
Warren.....	do.....	12,684
Muleshoe.....	Texas.....	4,668
Bowie.....	do.....	5,278
Port Lavaca.....	do.....	10,766
Bethel.....	Vermont.....	1,541
Waynesboro.....	Virginia.....	16,529
Montesano.....	Washington.....	3,056
Shawano.....	Wisconsin.....	6,730

<sup>1</sup> Current Population Reports: Population Estimates and Projections, U.S. Department of Commerce, Bureau of the Census, series P-65, April 1977, Washington, D.C.

## EXHIBIT 1-4.—Geographical distribution of the 40 small communities

Geographical Areas, Motor Carriers\*



- \* Carriers are assigned to the region in which their operations are principally conducted; carriers with operations in numerous territories, such as household goods carriers, are assigned on the basis of headquarters office.

## EASTERN DISTRICT

New England Region:

- Connecticut
- Maine
- Massachusetts
- New Hampshire
- Rhode Island
- Vermont

Middle Atlantic Region:

- Delaware
- District of Columbia
- Maryland
- New Jersey
- New York
- Pennsylvania
- West Virginia

Central Region:

- Illinois
- Indiana
- Michigan
- (Lower Peninsula)
- Ohio

## SOUTHERN REGION

Southern Region:

- Alabama
- Florida
- Georgia
- Kentucky
- Mississippi
- North Carolina
- South Carolina
- Tennessee
- Virginia

## WESTERN DISTRICT

Northwestern Region:

- Michigan
- (Upper Peninsula)
- Minnesota
- North Dakota
- South Dakota
- Wisconsin

Mid-Western Region:

- Iowa
- Kansas
- Missouri
- Nebraska

## WESTERN DISTRICT--Cont.

Southwestern Region:

- Arkansas
- Louisiana
- Oklahoma
- Texas

Rocky Mountain Region:

- Colorado
- Idaho
- Montana
- New Mexico
- Utah
- Wyoming

Pacific Region:

- Arizona
- California
- Nevada
- Oregon
- Washington

## SUMMARY OF RESULTS

The sample of 40<sup>3</sup> small communities selected for in-depth analysis covers 26 States and has the following population distribution:

- Population range of 1,000 to 2,500 : 4 communities;
- Population range of 2,500 to 5,000 : 15 communities;
- Population range of 5,000 to 10,000 : 12 communities;
- Population range of 10,000 to 25,000 : 9 communities.

\* Responses were not obtained from 2 communities.



These 40 communities represent 1.1 percent of the total population of all communities located outside SMSA's having populations between 1,000 and 25,000, or 0.7 percent of all communities outside of SMSA's having populations between 1,000 and 25,000.

## APPENDIX 2.—GUIDELINES FOR INTERVIEWING BUS TICKET AGENTS

### GUIDELINES FOR INTERVIEWING BUS TICKET AGENTS

#### PASSENGER SERVICE

- A. Average number of passengers embarking (per day or per week).<sup>1</sup>
- B. Average number of passengers disembarking.
- C. Breakdown of destinations.
  1. How many one-way and round-trip tickets (per day or week) are sold to each community served.
  2. What the one-way fare is to each of these destinations.
- D. Total dollar passenger fare revenues collected (per day or week).
- E. Schedules—when, where, time en route.<sup>2</sup>

#### PACKAGE EXPRESS SERVICE

- A. Average number of packages arriving per day (or week).
- B. Average number of packages departing per day (or week).<sup>3</sup>
- C. Dollar revenue collected from package express shippers per day (or week).
- D. Breakdown of destinations of package express.
- E. Percent breakdown between commercial and noncommercial shipment.

<sup>1</sup> If the agent indicated that the figure varies over the course of the week (with Fridays and Sundays especially heavy), both midweek and peakload information were requested.

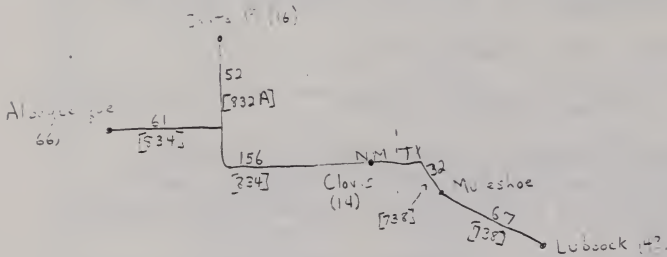
<sup>2</sup> This was intended to augment data in "Russell's Guide," which does not always list all service to small communities.

<sup>3</sup> As with passenger service, there may be peaking, although this is more commonly a seasonal phenomenon.

### APPENDIX 3.—BUS SCHEDULE MAPS FOR THE SAMPLE SMALL COMMUNITIES WITH INTERCITY BUS SERVICE

Muleshoe, Tx

No.



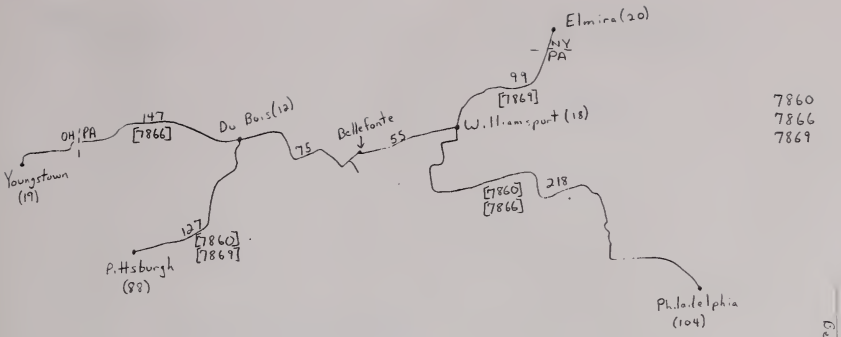
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832 A  
834

[738] Schedule 10. 10. 10.

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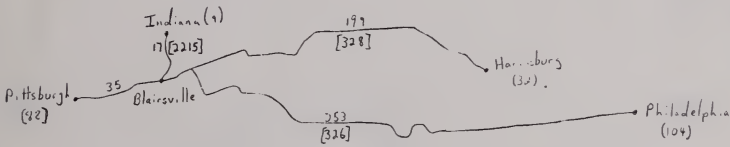
11. Aleaz



7860  
7866  
7869

Allegheny R.

N↑



326  
328  
2215

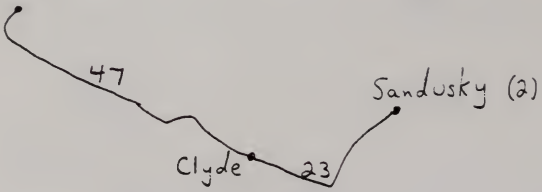
Allegheny R.

N↑

Clyde, Oh.

N↑

Toledo (51)

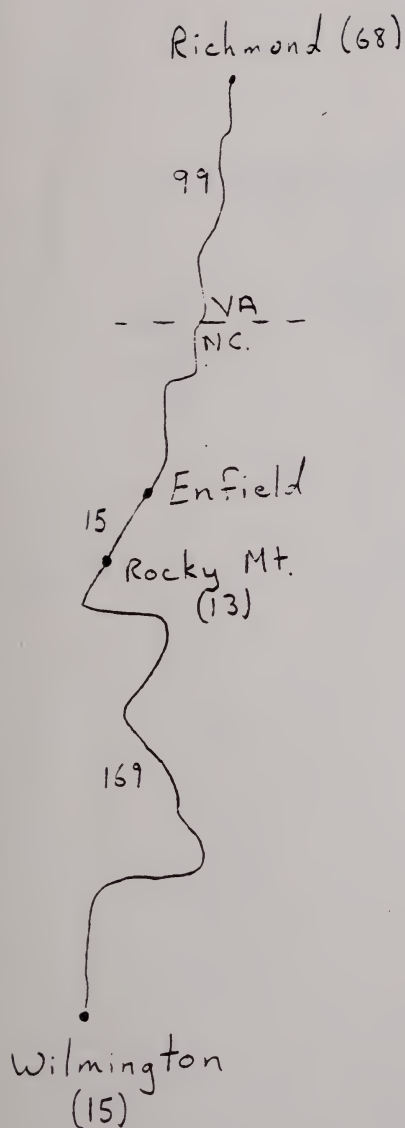


1439



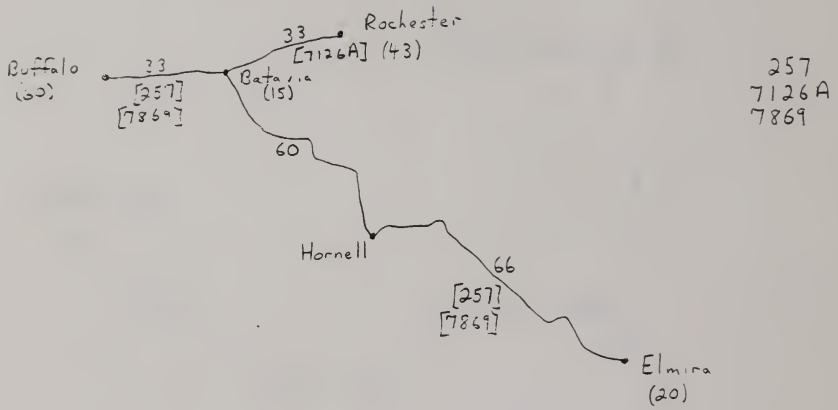
Enfield, N.C.

N↑

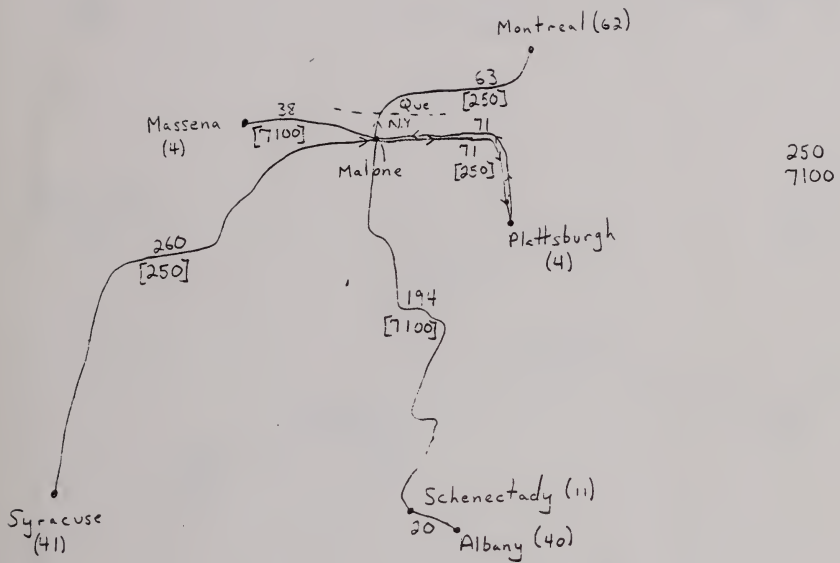


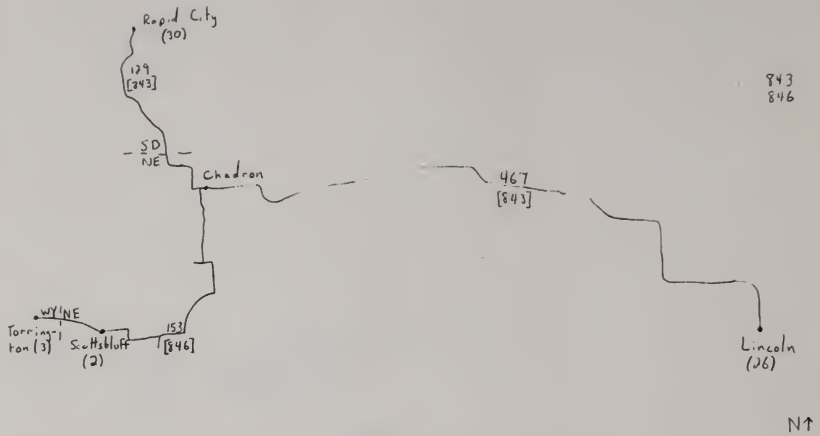
Hornell, N. Y.

N↑

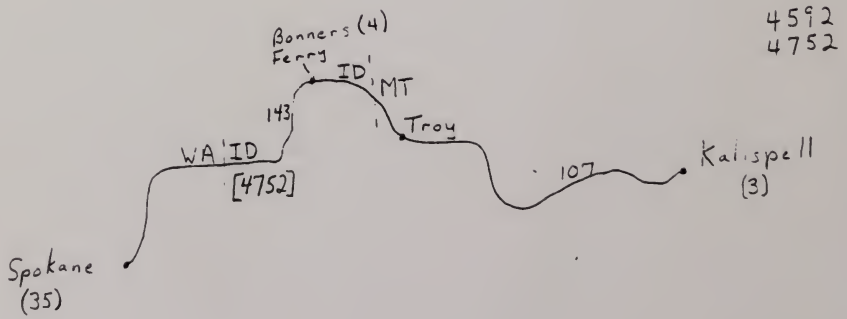


Malone, N.Y.  
N↑



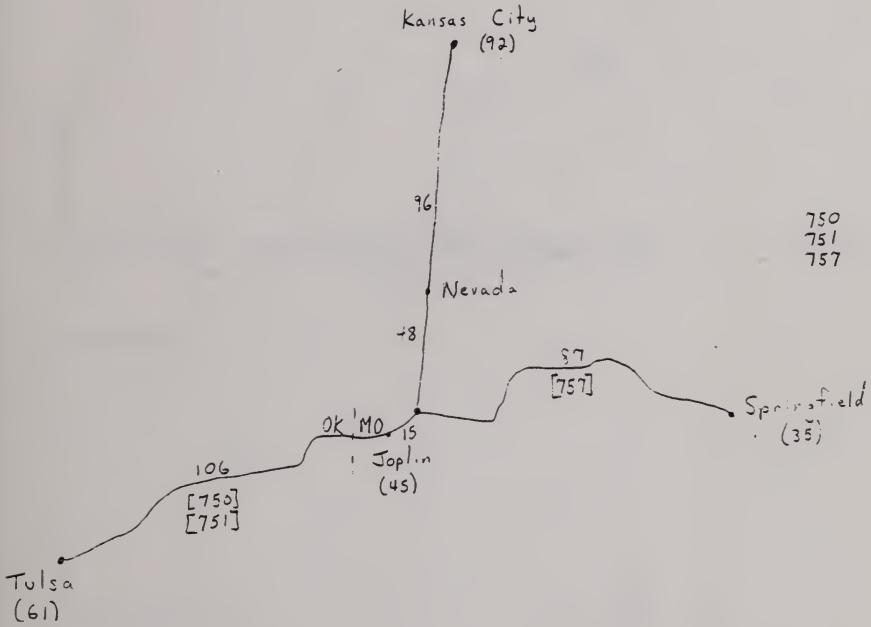


Troy, Mt.  
N↑



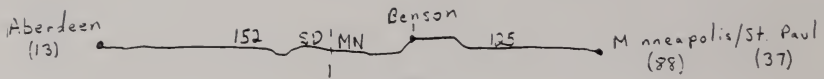


Nevada, Mo.  
N↑

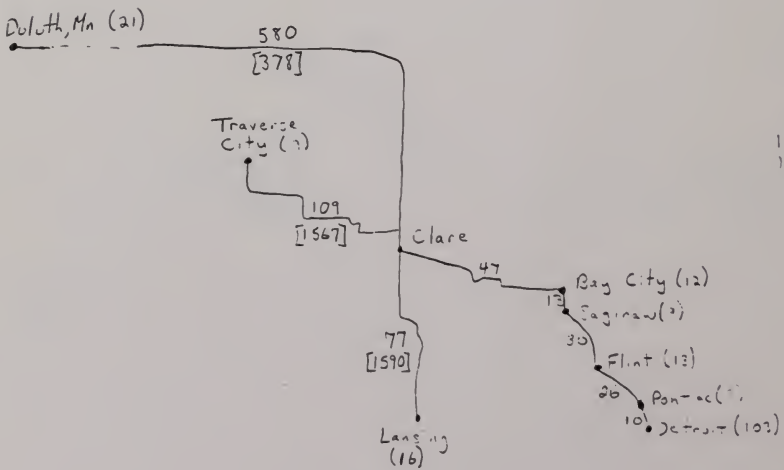


Benson, Mn.  
N↑

537

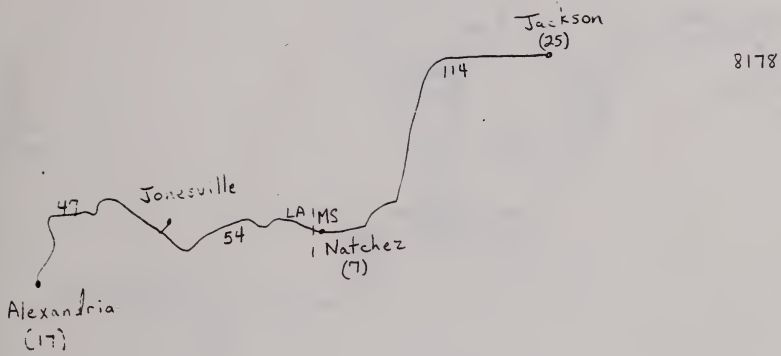


Clare, Mi.  
N↑



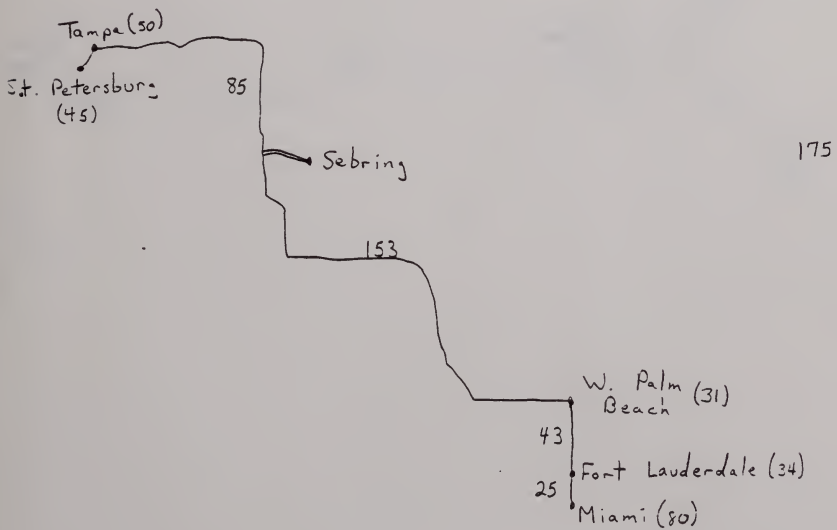
Jonesville, La.

N↑



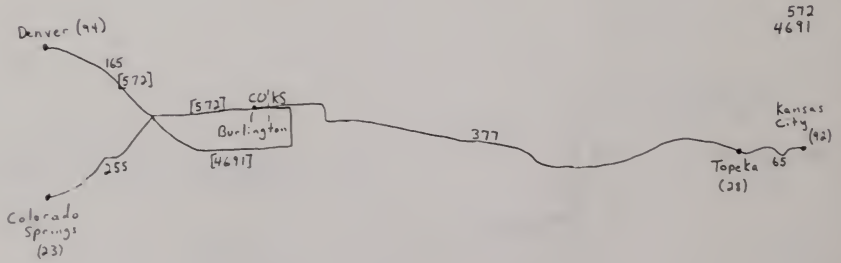
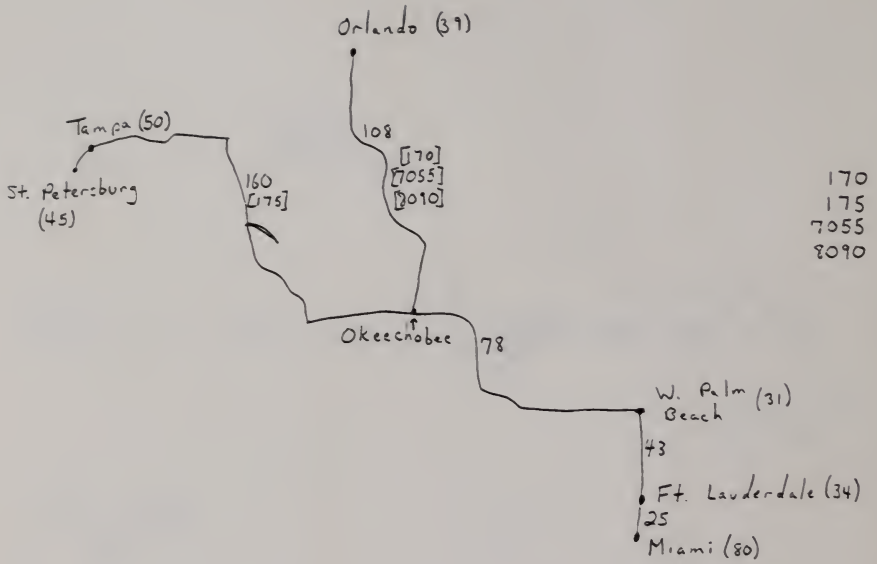
Sebring, Fl.

N↑



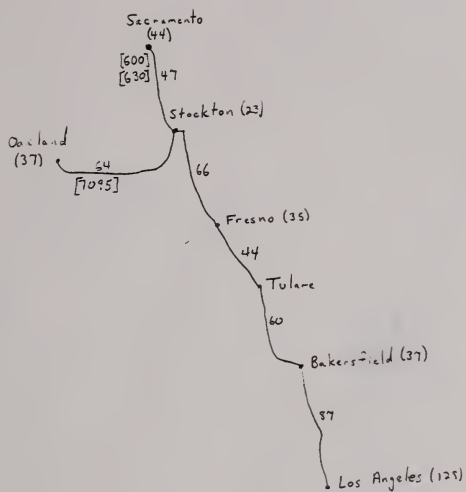
Okeechobee, Fl.

N ↑

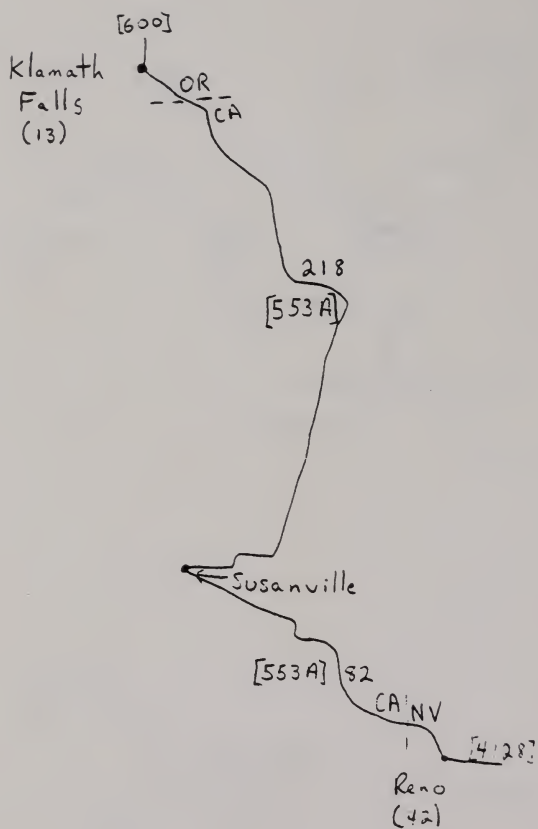
Burlington, Co  
N ↑



Tulare, Ca.  
N↑

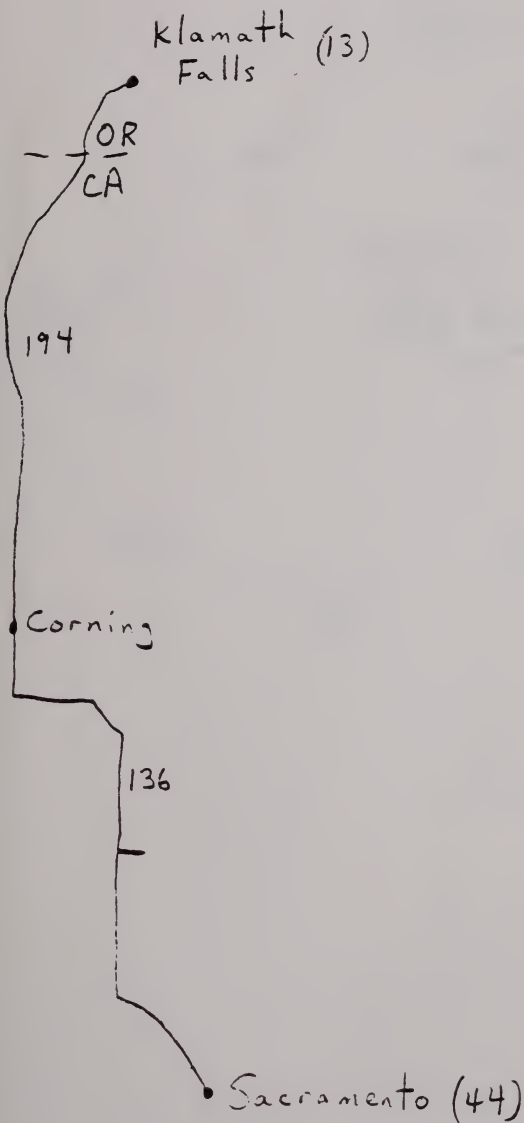


Susanville, Ca.  
N↑



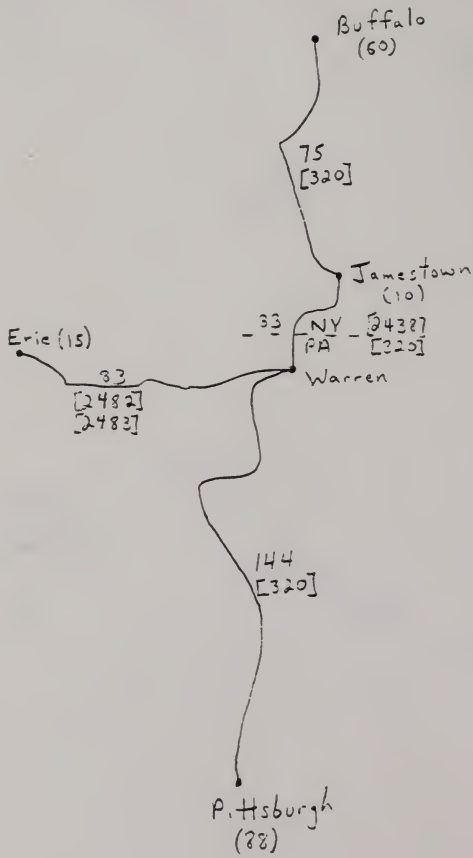
553A

Corning, Ca.  
N↑



600  
6304 b

Warren, Pa.  
N↑

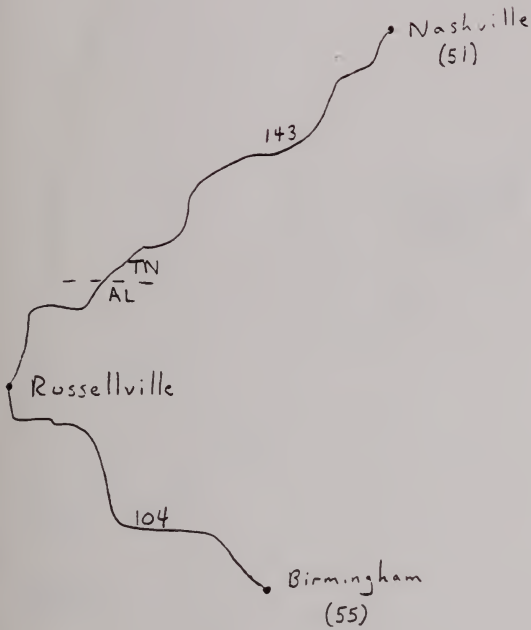


320  
2438  
2482  
2483



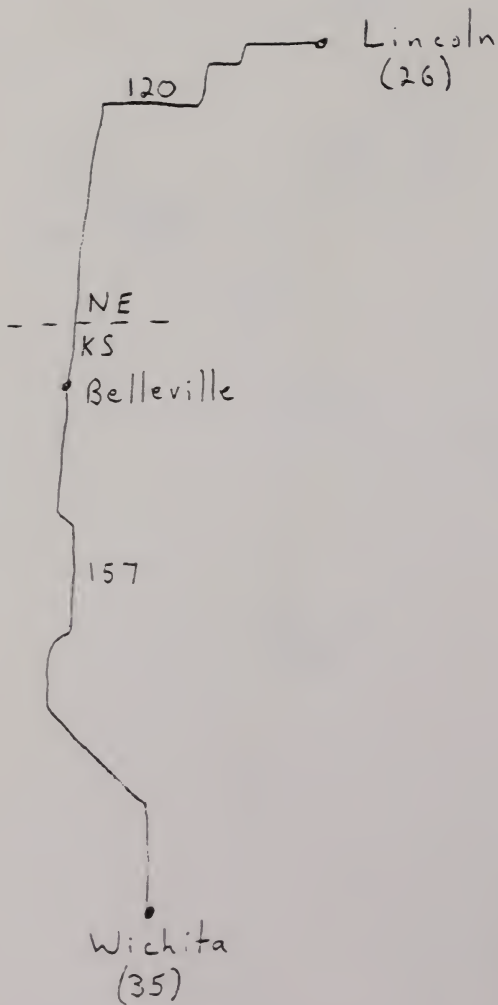
Russellville, Al.

N↑



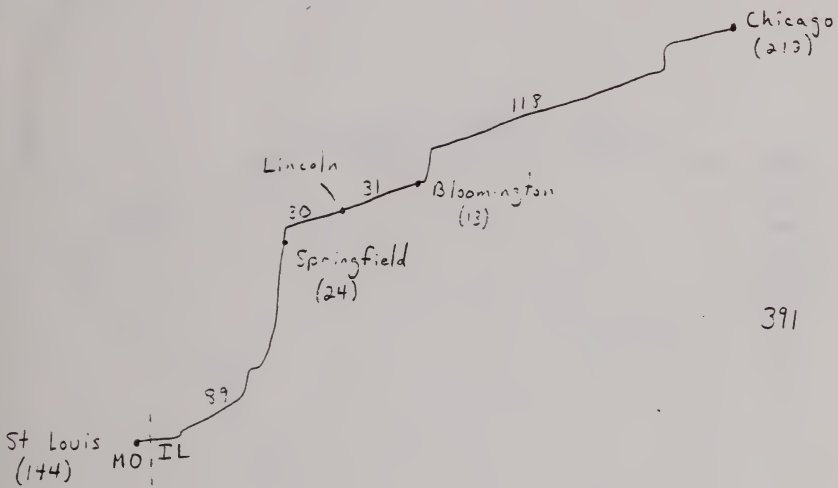
Belleville, ks.

N↑

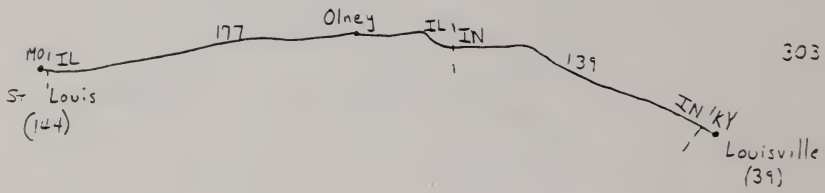


8376

Lincoln, Il.  
N↑



Olney, IL.  
N ↑





Anna, Il.

N↑

St. Louis  
(144)

118

Anna

46

Cairo  
(12)

3688

3689

Kimberly, Id  
N ↑

Twin  
Falls  
(16)

6 Kimberly

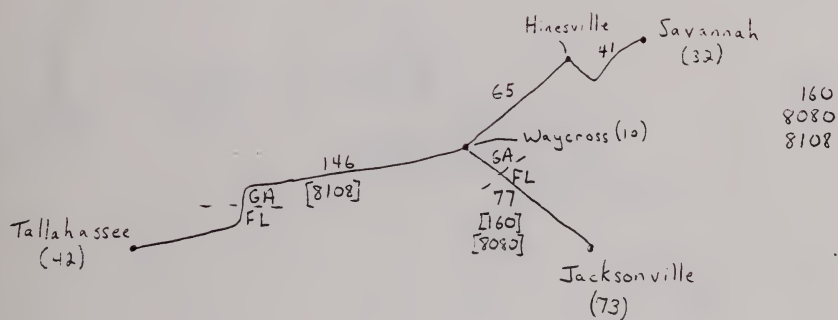
125

Pocatello  
(7)

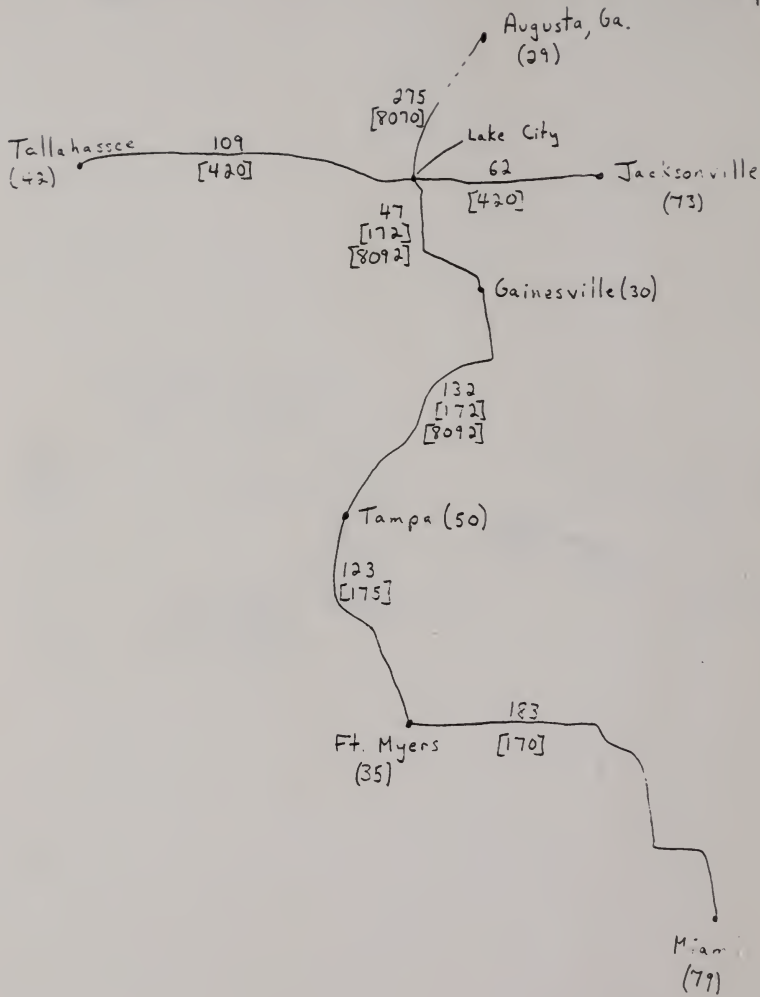
500

Hinesville, Ga.

N ↑



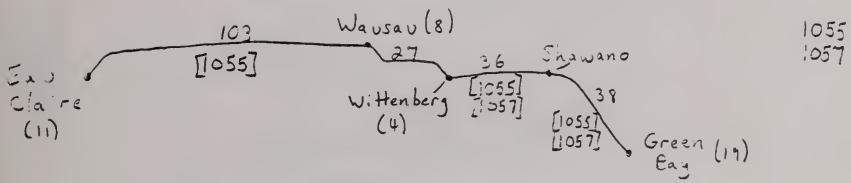
Lake City, Fl.  
N↑



170  
172  
175  
420  
8070  
8092



Shawano, Wi.  
N↑



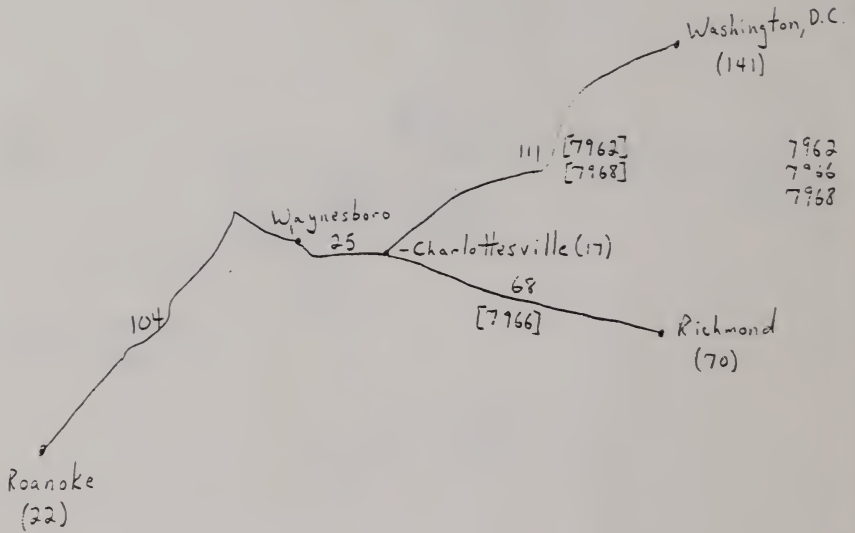
1055  
1057

Montesano, Wa.  
N↑

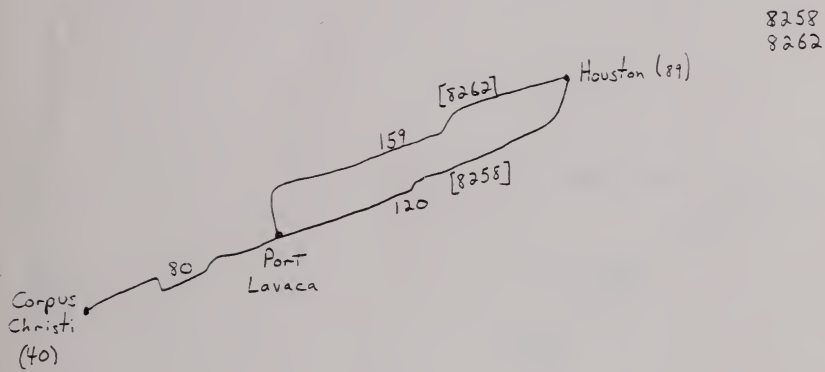


4573

Waynesboro, Va.  
N↑

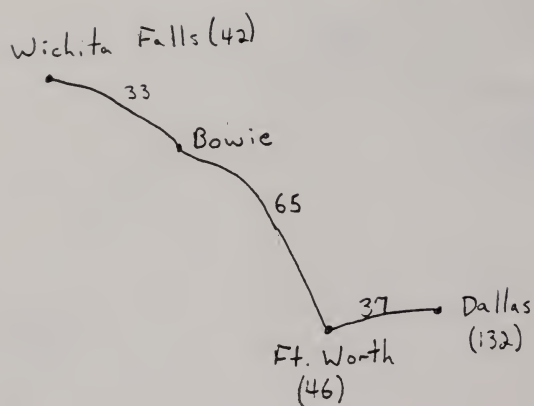


Port Lavaca, Tx  
N ↑



Bowie, Tx.

N↑

7778  
8250

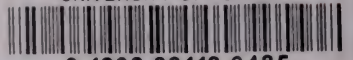








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